5-1932

Fire Insurance of School Buildings in Utah

Elmer Jeppsen

FIRE INSURANCE OF SCHOOL BUILDINGS IN UTAH

A Thesis
Submitted to the Department of Education
Utah State Agricultural College

In Partial Fulfillment
of the
Requirements for the Degree of
Master of Science

By

Elmer Jeppsen

May, 1932

ACKNOWLEDGMENT

The writer is deeply indebted to C. N. Jensen, Superintendent of Public Instruction of Utah, for his cooperation in putting forth efforts to collect some of the data in this study through the state office of education. The assistance of A. C. Matheson, Assistant Superintendent, has been particularly helpful.

Appreciation is also extended to the many superintendents and clerks of the school districts of Utah for their courtesies in replying to the inquires for data from their records. To George A. Christensen, of the Bear River Mutual Fire Insurance Company, and to A. L. MacDonald, of the Utah Home Fire Insurance Company, is gratitude extended for their fine spirit of cooperation in helping to provide data that seemed unavailable.

His appreciation is further extended to the faculty members of the Utah State Agricultural College, especially to Dr. E. A. Jacobsen, his major professor, for his kind and encouraging attitude in giving suggestions at all times, during the progress and writing of this thesis.

TABLE OF CONTENTS

(Table of Contents Continued)

L I S T O F T A B L E S

FIRE INSURANCE OF SCHOOL BUILDINGS IN UTAH

Problem:

What practices have been followed in insuring school buildings in Utah? Is our present system of insuring school buildings an economical system?

Definition of Problem:

Fire insurance, as used in this study, is understood to be any method of conserving and protecting the wealth and resources of the school districts against damage by fire.

Practices are the policies, written or unwritten, that seem to have directed fire insurance procedure in Utah school districts.

An economical system might mean the most desirable system from standpoints of conserving time and money while offering ample opportunity of education.

Delimitation of Problem:

This study is limited to the available records of the conditions that have existed in Utah school districts during the twelve years from 1919 to 1930 inclusive, from the standpoint of costs in dollars. Data from other states are introduced as bases of judgment. The data from some districts in Utah are not entirely complete, since adequate insurance records have not been kept in Utah.

Sources of Data:

To determine the status of school building insurance in Utah, a questionnaire was prepared to be sent to all district superintendents. This questionnaire, a sample of which appears in the appendix, was sent out through the office of the state superintendent, in August 1931, under the personal direction of Superintendent C. N. Jensen. Follow-up letters were mailed from the state office upon three different occasions, with a result that thirty-five of the forty districts in Utah reported almost complete data, as far as it was possible to do so.

To check the reliability of the most important data in the questionnaire, personal visits were made by the writer to six large districts and letters varying from one to four in number were sent and returned from thirty other districts.

Since the Biennial Reports of Superintendent of Public Instruction of Utah, 1926-1930, are complete enough to give the total insurance costs and adjustments by districts for the last five years covered in this study, a careful comparison was made with that source. Although it has been impossible to get complete reports from five districts, at least some data have been collected from all districts in the state.

To set up standards of ideal insurance, study was made of suggestions made by Reeder, Engelhardt and Strayer[1]. It was found

---

1. Reeder - "Business Administration of the School System" - 1929.
   Engelhardt - "Public School Business Administration" - 1927.
   Strayer - "School Building Problems" - 1927.

that the most complete report on the problem of school fire insurance was made by Melchior of Columbia, in 1925. His thesis was obtained and reviewed. Comparison of Melchior's findings will occasionally be made.

Some cities and states have created insurance funds to which all districts contribute and from which all fire losses are paid. To determine what data are available relating to fire insurance fund experience, another questionnaire, in the form of a personal letter was sent to all state superintendents, of whom 96% responded. Many gave sources of data on the subject; many gave a concise opinion of the "fund" plan. Their replies are reported in the appendix of this study[2]. Complete descriptions of the systems operating in North Dakota, South Carolina, and Wisconsin were obtained.

Some data were secured from Harry Cooper, Indianapolis, Indiana, secretary of 2600 Mutual Insurance companies, from Robert S. Moulton, Boston, Massachusetts, secretary of the National Fire Protective Association, and from the Research Bureau of the N. E. A., Washington, D. C. The Insurance Laws of Utah, 1931, and Biennial Reports of Commissioner of Insurance of Utah, 1909-1930, were also examined.

Personal interviews on various phases of the insurance problem were arranged with J. G. McQuarrie, Commissioner of Insurance in Utah, George A. Christensen of the Bear River Mutual Insurance Co.;

---

2. Appendix I.

A. L. McDonald, of the Home Fire Insurance Company; Frank Kane, of the Insurance Commission; Logan Rich, assistant Attorney General, all of Salt Lake City, Utah. Many prominent business men of Utah were also interviewed.

Several attempts were made to get the experience of the L. D. S. Church in its church insurance program, covering a period of sixteen years of self-insurance. However, church authorities were not in favor of giving for publication any facts or general opinions on the subject.[3]

History of Problem:

[1]The yearly fire waste in the United States is estimated at 10,000 lives and $500,000,000. This does not include the huge cost of maintaining fire departments. No kind of property escapes the danger of devastation by fire. [2]In the United States there is a daily average of seven school fires, which make our annual school building loss well over $5,000,000. During 1926 the fire loss to American schools amounted to more than $10,000,000 as a result of 2545 fires. Already in 1932 there have been two school fires in Utah, both of which resulted in a total destruction of the building.

Recognizing the fact that fires occur in school buildings, the problem is to devise means whereby we may meet these losses most economically with the least possible handicap to our educational system.

---

1 - 1927 Bulletin of National Fire Prevention Association
2 - The National Underwriter, March 1927
3 - Appendix II

Various studies have been made on the subject of fires. Such sources as the National Fire Protective Association, the National Board of Fire Underwriters, and Bests Insurance Service are only three of the better sources where much valuable data might be found on the general subject of fire insurance. When we confine our subject to the fire insurance of school buildings, we have fewer studies to which we might refer.

In 1925 Melchior, of Teachers College, Columbia University, made a most exhaustive study of 1182 school buildings in New York state, by working with the Educational Finance Commission. His study was an intensive report of insurance practices, costs, and losses in school districts of New York state; a general report of the same in cities of the United States; a compilation of statutory provisions for insurance of public school property of states of the United States, and a symposium on "Insurance of Public Schools" by thirty insurance executives.

Skaaland, whose thesis "Insuring Public School Property in Minnesota"[1] appeared in 1927, emphasized the importance of scientific appraisal of school property and the advantages of employing appraisal firms. Insurance costs, rates, ratios, and terms of policies are discussed. He concluded, among other things, that based upon fire losses which had occurred during a five-year period, it had paid St. Paul not to insure its school, and in Minneapolis, also, it had not paid the school district to insure school buildings.

---

1 - Library of University of Minnesota, Minneapolis, Minnesota

A survey of fire prevention and insurance in the schools of Millville, New Jersey, was made in 1927. A decrease in rates and an increase in the amount of insurance carried were made possible through reduction of hazards and the adoption of co-insurance.

At Manhattan, Kansas, in 1928, an insurance study was made with the assistance of an expert from the state insurance department. This study led to the adoption of a new insurance policy. By removing existing fire hazards at a cost of $124.39, insurance rates were reduced $544.96 for the year's premiums and $170 for each succeeding year[1].

Stanley C. Oliver, who, in 1929 published "Some Social and Economic Aspects of School Fires and Fire Insurance" pointed out advantages and disadvantages of self-insurance and concluded that self-insurance is justified only in the largest cities.

"Municipal Insurance" a survey of the practices of cities in insuring their property and liability risks, by O. A. Nolting, of the Extension Division, University of Kansas, discusses insurance of city property vs. no insurance, and company insurance vs. self-insurance.

Other studies in the field are the "Philadelphia Survey", "Report of the Survey of Maine" conducted by the Institute of Public Administration, New York, and the survey of Jefferson, Missouri. At the present time a thesis is being written in New York on some phase of school building fire insurance. In March, 1932

---

1 - "Rewriting School-Property Insurance at Manhattan, Kansas" American School Board Journal 76: 172; June, 1928.

H. C. Roberts of Siox City, Iowa, wrote the first of a series of three articles dealing with general insurance problems and methods of reducing costs. His article appeared in the "Educational Business Manager and Buyer."[1]

Many popular writers in the field of school administration, such as Engelhardt, Strayer and Reeder, have contributed to the subject of fire insurance of school property. The American School Board Journal offers the richest material on the problem published in magazines. Facts gleaned from some of these reports and conclusions drawn will be presented later in this study.

However, no studies have been made of the fire insurance of school buildings in Utah. Indeed, the records kept by most school districts are so inaccurate and incomplete that they offer little in the way of data for an insurance study, (as will be shown.) According to the 1930 Biennial Report, we have 776 school buildings in Utah, with a total valuation that reaches into millions. Just how much our school property is worth in this state, we do not know, due to inaccurate appraisals or no appraisals in many districts. Some districts can furnish a 1932 evaluation of their school property, since they had an appraisal made last January. One district publishes an annual report wherein complete data are kept covering certain phases of fire insurance. Some districts can give the exact costs of construction of their buildings, but they have had no appraisals in recent years. Many districts have no records to show when their

---

1- Articles not formally published at the time this study was written.

buildings were built, what they cost, or what their present value is.

Regardless of our unscientific methods of record keeping the school districts of Utah paid over $48,000.00 to commercial companies in fire insurance premiums during 1930. Whether or not this represents adequate insurance or whether or not it is a wise policy to spend $48,000 for fire insurance under our present system, we have never undertaken to determine. Many other states have done as little research in this direction as has our own state. Only eleven states in the Union require school boards to protect their property by insurance. Problems of the amount of insurance to carry, the system of insurance to adopt and problems of fire prevention are probably regarded by states as being problems insignificant for state consideration.

San Francisco, Columbus, New York City, Chicago, Milwaukee do not insure their school buildings, since experience has proved that their replacements cost less than adequate insurance carried with commercial companies.[1]

North Dakota, South Carolina, and Wisconsin have enacted laws which provide for state insurance of school buildings. The "Insurance Fund" method has been adopted and is working well in Cincinnati, Cleveland, Kansas City, Newark and Philadelphia. Several other cities have tried state insurance and the insurance fund methods.

1- Nolting - "Municipal Insurance" pp. 15-18. Bulletin of University Extension Division, Lawrence, Kansas.

It is therefore evident that at least four distinct methods of fire prevention and protection are practiced in the school districts of United States. These are: No insurance, or self-insurance; insurance by a State Fire Fund; insurance by private companies; insurance by a city fund. Has it paid the schools of Utah to insure their property with private companies? Are some districts better insured than others? Do the schools pay unjust rates for insurance? Do we tend to sacrifice our less expensive buildings by insuring them at a lower ratio to value than we do our larger buildings? Has our policy been an educational handicap to some districts when fires have occurred?

Recently the Panguitch High School burned to the ground. Contrary to newspaper reports, there is not a present indebtedness on the building and $15,000 insurance was carried. It will cost $40,000 to replace the building and how is the $25,000 to be obtained? The 250 students of Panguitch are the people who are missing opportunities that cannot be estimated in terms of dollars. Provision was made for some of these students to attend other schools, but a great many others will be denied privilege of attending school until some means can be devised to raise funds. Could a different insurance system have provided another school without placing excessive burden on this district which is limited in its resources?

It seems that there is need for studies of school building insurance in Utah. In these days of retrenchment in education

every dollar counts. If a saving can be made at the same time security is made more secure, it is well worth the time of analysis. This study can never solve problems. It is hoped however, that some of the data presented will be valuable enough to cause attention to be focused upon our present conditions of fire insurance, that, if possible, better conditions may be developed.

What Practices Have Been Followed in Insuring School Buildings in Utah?

Records

The first problem that arises when one begins to study conditions past and present is "What records covering the subject are available?" A complete scientific study of insurance conditions in Utah school districts is impossible from that score. The Biennial Reports of the Superintendent of Public Instruction written ten years ago contained very few tables of figures. Beginning with the reports of 1925-1926 total costs of insurance and adjustments received by the districts from insurance companies are listed apart from "Fixed Charges" and "Miscellaneous Revenue."

No other data of insurance nature, however, are included in our state reports, so any further study must be made from the records of each district. It would seem that if any records of insurance are accurately kept by our clerks,

the records of insurance premiums paid and adjustments received would be available, and the figures given on the questionnaire for the last five years should agree with those printed in the Biennial Reports of Superintendent of Public Instruction for the corresponding time.

Table No. 1 shows the number of errors or discrepancies found by comparing the figures reported on the questionnaire with those in the state reports. In general, more entries are made in the state reports than were given on the questionnaire, although entries were reported by questionnaire, and later confirmed by letters or personal visits, to show that at times the opposite condition is true.

This does not imply that either report is an accurate report; neither does it mean that means cannot be devised to verify the figures in the state reports. It does mean that any other report of fire insurance premiums paid and adjustments received on policies insuring school buildings in Utah 1919 to 1930, obtained under similar conditions and by similar methods is likely to reveal figures that are not those recorded in the official reports of the Superintendent of Public Instruction.

Is it unjust to assume that if adequate records of fire insurance are kept in line with business principles, any clerk, worthy of his position, should be able to read the records and give the same data ten years hence he gives today, provided the data called for ten years hence are the same data called for today?

The writer was fully aware that many districts pay the total premium for the term of a policy when the policy is written, and the errors might have been due to the fact that some clerks reported annual premium and some gave annual and advance premium, or any sum paid in insurance in the particular fiscal year specified. The instructions accompanying the questionnaire were written to guard against this probability of error.

Another source of probable error is the fact that the columns "Insurance" and "Insurance Adjustments" in the Biennial Reports probably include workmen's insurance as well as fire insurance. If it is true that no attempt has been made to keep fire insurance records apart from the records of other insurance then fire insurance records are inadequate from that score. The amounts of the errors and the amount of the "Total Average Error" are so large in some cases that they at least tend to partly disprove the indicated probabilities.

In some cases clerks had misunderstood what data were called for in the questionnaire, and the letters or personal visits to the offices of the clerks corrected errors not shown in this summary.

Table No. 1

COMPARISON OF QUESTIONNAIRE DATA vs. BIENNIAL REPORT RECORDS OF COSTS AND ADJUSTMENTS OF FIRE INSURANCE IN UTAH SCHOOLS, 1926 to 1930 INCLUSIVE

Differences in total amount for the five year period

District	Errors in Cost	Errors in Adjs.	Total Errors (10 Entries)	Letter sent?	Total Error in Costs	Av. Error in Costs	Total Error in Adjustments	Av. Error in Adjustments	Total Average Error
1	0	3	3	yes	------	------	$3,196.91	$1,065.63	$1,065.63
2	5	2	7	no records	$2781.78	$ 556.36	31.86	15.93	401.95
3	0	0	0	yes	------	------	-------	-------	-------
4	0	3	3	yes	------	------	265.94	88.65	88.65
5	5	3	8	3 letters	3247.15	649.53	1,093.29	364.43	542.55
6	1	1	2	no	230.37	230.37	100.00	100.00	165.18
7	0	0	0	no	------	------	-------	-------	-------
8	5	1	6	yes	1692.10	338.42	108.50	108.50	300.10
9	2	0	2	yes	13.75	6.87	-------	-------	6.87
10	3	1	4	yes	4000.00	1333.33	86.12	86.12	1,021.53
11	1	0	1	yes	1.00	1.00	-------	-------	1.00
12	4	2	6	yes	21.35	5.34	648.67	324.33	111.67
14	3	0	3	no	296.25	98.75	-------	-------	98.75
15	0	0	0	yes	------	------	-------	-------	-------
16	5	1	6	yes	186.28	37.25	35.00	35.00	37.00
17	1	2	3	yes	1,127.90	1,127.90	141.70	70.85	423.20
18	5	0	5	yes	674.26	134.85	-------	-------	134.85
19	0	0	0	yes	------	------	-------	-------	-------
20	5	0	5	yes	331.99	66.40	-------	-------	66.40
21	4	1	5	yes	374.25	93.56	39.75	39.75	82.80
22	1	1	2	no	34.18	34.18	184.12	184.12	104.57
23	1	1	2	yes	688.13	688.13	2,040.00	2,040.00	1,364.06
24	5	0	5	yes	1,104.49	220.89	-------	-------	220.89
25	0	2	2	no	------	------	143.61	76.80	76.80
26	0	0	0	yes	------	------	-------	-------	-------
27	2	2	4	yes	3,740.00	1,870.00	6,335.95	3,167.97	2,516.49
28	5	1	6	yes	1,686.35	337.27	370.50	370.50	342.81
29	1	2	3	yes	170.60	170.60	31.13	15.56	67.24
30	5	2	7	yes	533.05	106.61	186.47	93.23	102.80
31	0	0	0	no	------	------	-------	-------	-------
32	4	0	4	no	1,273.51	318.40	-------	-------	318.40
33	1	1	2	yes	20.10	20.10	200.00	200.00	110.05
34	1	1	2	yes	162.26	162.26	8.37	8.37	85.31
35	4	0	4	yes	632.97	158.24	-------	-------	158.24
36	2	0	2	yes	212.05	106.02	-------	-------	106.02
Totals	81	33	114 or 32 %		$25,236.12	$ 311.55	$15,247.89	$ 462.06	$ 355.12

"Error" means discrepancy between the two reports, with no inference as to the reliability of either report

The table shows that only seven districts gave reports that agreed with those in the Biennial Reports on the two items of Insurance Premiums Paid and Adjustments Received. Of the 36 districts included in the summary, wherein 360 entries were possible, 180 in Costs and 180 in Adjustments, 81 errors were made in reporting costs and 33 in reporting adjustments, with a total of 114 errors, or 32%. During the five-year period a total error of $40,484.01 is therefore involved, making the average error about $355.12, a rather significant sum. The reason for fewer errors in the adjustment column lies in the fact that there were fewer entries to be recorded; no district had a fire each year and some had none during the five years.

Only two answers can be given to explain this discrepancy; either the questionnaire method of gathering data is highly unreliable, which supposition, though generally true, is affected by the checking done and the fact that Superintendent Jensen called for the questionnaire as a special report from the clerks, or our insurance records in this state are reliable only as "far as they are translated correctly."

If our records of the past five years are so inaccurate in the two items of costs of insurance and adjustments received, what insurance data can one expect to find if he aims to trace conditions twenty years ago, from all the different angles that should be studied in a good insurance report? Since we do not

have uniform insurance records throughout the districts of the state, there are obviously distinct limitations drawn around the reliability and scope of the survey in this study.

As nearly as has been determined by the writer there is no district in the state that keeps an insurance record book wherein are kept complete details of each policy. The usual procedure seems to be that the policies in force are kept on file at least until they expire, but complete details are not recorded in an insurance book so that one might get the entire record of a given policy. The city school systems have better records than other districts keep. However, entries for premiums paid and adjustments received are available in most districts, but they are recorded in the general voucher register of the district.

Other causes of error were found to lie with the clerks who could not find exact data or interpret accurately the data found if the data in question were written before the time they became clerk. With all due respect to clerks of the districts for the work they have done and are trying to do, it is bluntly suggested that before an efficient clerk is expelled to be replaced by another clerk at least the new clerk should be specifically trained for his office.

Insurance Laws of Utah.

The laws of Utah relating to fire insurance of school buildings are indeed hard to find. "There is nothing in the insurance code which requires a school district to insure its buildings; I think that is a matter to be determined by the trustees. There is no specific amount of insurance that must be carried. There is nothing in the law to prohibit a district's insuring with an authorized mutual company."[1]

No mention of insurance laws of school property is made in the "School Laws of Utah".

Regardless of the absence of statutes specifically regulating school building fire insurance in Utah, it is evident that school executives have seen wisdom in taking precautions against fire loss. "Data do not prove that it does or does not pay to insure; data do show it pays to protect against fire hazards."[2] Every district pays some premiums each year, although some amounts are relatively insignificant.

1- Letter from J.G.McQuarrie, Commissioner of Insurance April 12, 1932.
2- Melchior "Insuring Public School Property."

In this survey of school building insurance conditions in Utah, it is aimed to answer the following questions.

1. What is the policy of Utah school board members toward fire insurance of school property?
2. Are Utah school buildings adequately insured?
3. What are the insurance rates paid by our schools?
4. Have Utah schools proved to be good insurance risks during the past 12 years?

What is the policy of Utah school board members toward fire insurance of school property?

Although the state school laws are silent on the matter of insurance of school property, all districts carry some insurance. There is no uniformity as to the percentage of insurance to value, rates paid, and details of policies, however, as will be read from following tables. This insurance is written by commercial insurance companies, which are for the most part stock companies.

Are Utah School Buildings Adequately Insured?

One of the major reasons offered by insurance executives for their dislike of school risks is that schools are often insured to a low percentage to value. "Adequate" insurance is a relative figure, depending upon the hazards of a given risk and no definite percentage to value can be given without considering the many factors of hazard and financial status of the insured. From policies examined and general reading done

in the field of insurance, it is concluded by the writer that an insurance ratio of 80% to value on buildings not fire-proof is the ideal most insurance writers strive to attain. Buildings highly fire resistant are often considered adequately insured if the ratio is 30% to 40% value.

Again there are limitations to attempts in determing the ratio of insurance carried by our school districts, for no uniform system of estimating depreciation or changing economic conditions making for different property valuations is followed by all districts. That buildings depreciate 2.5% to 5% annually is estimated by building experts;[1] that economic conditions must be considered in appraisals is shown by the table of cost of school buildings in Wisconsin.[2]

Building	Original Cost	Cost of Rep. in 1914	Cost of Rep. in 1920
Blaine	$ 75,200	$106,800	$195,000
Bryant	41,600	57,600	105,000
Carpenter	105,000	119,500	215,000
Central	261,000	261,000	255,000
Cooper	87,000	112,200	205,000
Dewey	60,000	79,100	145,000
Ericsson	100,400	121,700	220,000
Franklin	13,300	15,000	135,000
Howe	57,100	75,000	135,000
Lincoln	42,250	54,900	100,000

The report of all school buildings of Salt Lake City[3] shows the original total cost $8,163,400; equivalent cost of construction in 1930-31, $10,941,100; valuation 1931, $8,693,900;

The appraisal of this property shows a provision has been made for depreciation.

The following table has been prepared to show the ratio of insurance to present value carried upon school buildings in Utah, These buildings are classified in order to show whether or not we sacrifice some of our risks at the expense of others.

1- Engelhardt "Public School Business Administration" Page 384

2- Superior, Wisconsin Survey--1925

3- Annual Report, Board of Education --1930-1931

4- Melchior, "Insurance of Public School Property"

"Educational report values are ten to twelve percent below insurance sound values."

"More than 50% of districts give little if any attention to appraisal of buildings."

Table No. 2

TABLE SHOWING ACTUAL VALUATION vs. INSURED VALUATION OF SCHOOL BUILDINGS IN UTAH[1]

(Classified by Rooms)

District	(One Room) No. Bldgs.	Value	Ratio	(Two Rooms) No. Bldgs.	Value	Ratio	(Three Rooms) No. Bldgs.	Value	Ratio	(Four to Six Rooms) No. Bldgs.	Value	Ratio
Box Elder	7	$ 20,705	58 %	5	$ 42,464	43 %	5	$ 45,890	50 %	10	$160,074	58 %
Alpine	0	----		3	14,785	70	0	----		5	93,520	70
Beaver	3	3,000	53	1	12,000	63	1	30,000	83	0	----	
Cache	0	-----		10	46,842	127	1	6,511	107	9	145,932	85
Davis	0	-----		0	----		1	15,000	17	2	39,000	33
Duchesne	5	4,130	73	6	20,407	82	6	37,623	62	7	80,973	64
Emery	1	2,875	79	2	10,850	88	0	----		6	101,375	77
Garfield	0	-----		1	2,000	100	2	10,000	70	1	6,000	50
Granite		Blanket - All buildings insured to				70%						
Iron	7	7,795	69	3	14,830	47	0	----		2	70,380	51
Jordan		Blanket - All buildings insured to				70%						
Juab	1	1,200	83	0	----		0	----		2	19,500	65
Millard	4	3,068	82	5	11,845	67	0	----		8	151,356	78
Nebo	1	1,000	110	4	40,322	78	1	21,557	75	14	266,565	78
North Summit	1	1,400	64	4	26,900	78	0	-----		3	46,000	78
Park City	0	----		0	----		0			1	11,000	86
Piute	1	1,000	90	1	1,000	80	2	19,000	79	5	93,700	93
Rich	0	----		0	----		0	----		4	35,500	23
San Juan	8	13,100	31	1	1,500	none	2	2,500	none	0	----	
Sevier	0	----		0	----		2	49,486	71	12	235,516	84
South Sanpete	1	6,000	67	1	1,000	75	2	11,000	55	2	34,000	59
South Summit	1	6,000	67	0	----		3	12,000	56	2	34,000	59
Tintic	2	4,203	48	0	-----		1	9,000	50	1	28,124	79
Tooele	1	1,062	81	6	45,014	84	3	44,625	80	3	47,500	65
Uintah	1	1,000	80	5	20,700	78	4	14,000	83	9	76,500	71
Wasatch	0	----		0	----		1	12,000	104	3	40,000	51
Washington	2	2,500	68	5	11,400	81	3	18,550	63	3	45,036	71
Wayne	2	1,500	67	1	5,000	80	2	13,000	69	4	29,000	72
Weber	0	----		1	4,000	50	2	22,600	57	11	176,057	49
Ogden	0	----		2	4,530	80	0	----		2	13,000	79
Logan	0	----		0	----		0	----		3	74,471	61
Provo	0	----		0	----		1	4,224	86	0	----	
Murray	0	----		2	10,000	55	0	----		1	12,000	79
Salt Lake	0	-----		4	15,900	80	1	22,700	80	0	----	
Totals	49	$ 81,538	60	73	$363,289	79	46	$421,266	72	135	$2,166,068	70

1- "Actual Valuation" meaning Sound Value

TABLE SHOWING RATIO OF ACTUAL VALUATION vs. INSURED VALUATION OF SCHOOL BLDGS.
(Continued from other page)

District	(7-10 Rooms) No. Bldgs.	Value	Ratio	(11-15 Rooms) No. Bldgs.	Value	Ratio	(16-20 Rooms) No. Bldgs.	Value	Ratio	(21 or more) No. Bldgs.	Value	Ratio	(Totals) No. Bldgs.	Value	Ratio
Box Elder	3	$ 58,961	47%	3	$ 97,029	69%	0	----		2	$347,764	51 %	35	$782,677	53 %
Alpine	7	161,642	70	2	85,700	70	0	----		4	382,714	70	21	738,361	70
Beaver	0	----		2	130,000	76	1	$65,000	85%	2	240,000	69	10	480,000	73
Cache	4	154,271	94	4	119,478	118	0	-----		2	365,975	74	30	971,130	89
Davis	6	170,000	40	2	124,000	35	2	134,000	38	1	160,000	58	14	642,000	42
Duchesne	3	100,359	50	0	----		0	-----		0	----		27	206,042	54
Emery	5	188,749	79	3	132,000	78	0	-----		0	----		17	435,849	80
Garfield	1	10,000	50	0	----		0	-----		1	60,000	42	6	88,000	49
Granite		Blanket	70												
Iron	1	83,000	24	2	155,956	68	1	60,450	37	0	----		16	392,411	50
Jordan		Blanket	70												
Juab	1	12,000	100	1	22,500	80	0	-----		1	123,500	80	6	178,700	80
Millard	5	117,510	80	3	180,214	92	0	-----		0	----		25	464,086	80
Nebo	6	203,336	83	2	193,341	76	2	93,424	97	1	147,511	81	31	968,056	80
North Summit	0	----		0	----		0	-----		1	132,000	81	9	314,300	80
Park City	1	26,500	87	2	187,000	88	0	-----		0	----		4	224,500	80
Piute	0	----		0	----		0	-----		0	----		9	115,700	90
Rich	1	7,000	29	0	----		0	-----		0	----		5	42,500	24
San Juan	3	142,000	43	0	----		0	-----		0	----		14	159,100	41
Sevier	4	98,968	89	3	142,995	91	1	77,939	92	0	----		22	604,808	86
South Sanpete	3	53,000	26	3	163,000	40	1	85,000	34	0	----		13	355,500	40
South Summit	1	60,000	37	0	---		0	-----		0	----		7	112,000	50
Tintic	0	----		1	40,738	78	2	165,259	89	0	----		7	247,343	90
Tooele	0	----		3	216,500	80	1	73,750	80	2	181,250	80	19	700,936	80
Uintah	3	50,000	86	2	31,000	71	1	85,000	71	0	----		25	278,200	78
Wasatch	5	150,000	82	0	----		0	----		1	130,000	77	10	332,000	79
Washington	1	28,000	86	2	61,000	60	0	----		0	---		16	166,036	70
Wayne	1	7,000	71	0	----		0	----		0	----		10	55,500	73
Weber	7	217,883	61	0	----		0	----		1	253,250	13	22	673,779	40
Ogden	1	19,100	80	2	53,800	80	4	219,390	80	5	494,010	66	16	1,036,659	80
Logan	2	47,637	73	1	54,745	53	0	----		2	384,514	55	8	561,368	58
Provo	1	30,308	83	3	191,669	76	3	282,489	79	1	185,029	85	9	720,919	80
Murray	3	110,000	37	1	34,000	91	0	----		0	----		7	166,000	52
Salt Lake City	4	134,500	80	5	426,100	80	9	1,134,700	70	21	6,862,800	49	44	8,693,900	52
Totals															
* Totals	83	$2,441,624	69 %	52	$2842,765	77 %	28	$ 2,476,401	72 %	48	$10,450,317	54 %	514	$25,514,958	64

* All buildings surrounding a school counted as one building

The table shows that about half the districts carry insurance on school property to 80% or nearly 80%, but that the state average is 64%, exclusive of two districts with higher ratios. The fact that the Salt Lake City district has so many large buildings that are insured to 30% reduces the state figure considerably. This means that school buildings in the state are about 10% below the ratio assumed to be desirable. Melchior found the median ratio of insurance to value in New York state to be 60%.

Although insurance ratios in general are not definitely inadequate, it is true that there are districts unable to provide adequate insurance. The loss of Panguitch High School carrying 37½% insurance is indeed a definite example of inadequate insurance.

Perhaps schools in Utah are carrying more insurance than schools in general usually carry due to the fact that many districts have a co-insurance clause attached to their policies. The co-insurance clause is a clause with a purpose to prevent underinsurance. This clause provides that the insured receives in adjustments just the percentage of loss that the insurance carried is to the amount that should be carried. Thus, if a district has a building valued at $10,000 and the insurance policy carries a 80% co-insurance clause the district is obliged to carry $8,000. insurance if it wishes to receive

full adjustment, in case of loss. If, however, the district carries only $6,000. insurance, it is carrying only 75% as much as it should carry. Therefore, in case of fire the company will pay 75% of the loss.

The following districts in Utah carry co-insurance on school policies to the percentage specified.

Alpine 80%	Sevier 80%
Cache 90	South Summit..80
Carbon 80	Tintic 90
Davis 70	Tooele 80
Duchesne ...70	Uintah 90
Emery 80	Wasatch 80
Iron 70	Washington ...70
Juab 80	Weber 70
Millard 70	Salt Lake 80
Nebo 80	Logan 90
Park City ..90	Ogden 80
Piute 80	Provo 80

Murray...90

There is little reason for believing that our less valuable buildings are sacrificed by insuring them at a lower ratio than our large buildings carry. Opposed to the principle that little insurance should be carried on small risks since a small loss can easily be replaced, is the principle that larger buildings are usually better built and better protected and are seldom total losses in case of fire. The ratio to value of insurance in Utah schools classified by rooms is fairly uniform, with the ratio on buildings 21 rooms or larger being the smallest. Such lack of uniformity as occurs is often due to an exceptional case or two that are not truly representative.

What are the Insurance Rates Paid by Utah Schools?

A comparison of costs of insurance means a comparison of rates. Rates are determined by insurance companies by means of mathematical procedure, covering conditions over many years. Rates fluctuate with economic conditions and fire losses, but the rates between companies on a specific risk remain fairly uniform. Rate making is classified into schedule rating and general classification rating. Under the former method a standard building in a locality is described and a rate is fixed. All other buildings insured in the vicinity are compared to this risk which forms a basic rate, from which reductions are made and to which additions are made according to the particular features of hazard found in the risk to be insured. The general classification rating is in itself explanatory.

Rates on Utah schools are based upon both methods, but the general classification method is used in most cases. The following excerpt from a letter[1] will explain some features of rates on school buildings in Utah.

> School buildings in this state are generally covered by insurance, although in certain cases the amount of insurance is probably not adequate. Our rates on school buildings, as well as other public properties,

---

1- Letter from A.J. Snow, Chief Engineer, Board of Fire Underwriters of the Pacific, July 22, 1931.

> does not take into consideration slight deficiencies in protection or construction. The rates have been reduced to a very low figure which does not permit giving credits for extinguishers and the like. The protection of the city or district in which the school is located is considered as well as the general construction, whether fire proof, joisted brick with composition roof, brick with shingle roof, or frame. Except for these features the rates are practically on a flat basis.

The following table will show the percentage of school property in each district insured at the various rates listed. Some districts have rates considerably lower than others, due to their superior buildings, better protection, or the fact that their policies contain co-insurance clauses.

Blanket insurance policies offer lower rates than general insurance policies, and at the same time they give good protection, One of the major reasons why more districts do not have blanket policies, according to the clerks interviewed, is that Board members or influential citizens have exerted influence in distributing the school insurance to "their" companies. This reason is not in harmony with opinions given by almost every insurance man the writer has been able to interview, i. e. school buildings are undesirable insurance risks.

TABLE SHOWING PERCENTAGE OF SCHOOL BUILDING PROPERTY IN UTAH INSURED AT RATES PER $100 VALUATION

(Term 3 years)

RATES (Per $100) Val.	.54	.57	.575	.60	.63	.64	.675	.68	.69	.70	.72	.74	.75	.80	.87	.90	.95	1.00	1.05	1.10	1.12	1.15	1.20	1.25	1.30	1.35	1.50	1.60	1.70	1.90	2.00	2.25
Alpine					100																											
Beaver													83											4	12	1						
Box Elder				7									49		1	8		3	2	4		9		2⅛		14					2	
Cache				10	70			20																								
Davis													100																			
Duchesne													26											44	2	3		2		2	5	10
Emery													100																			
Garfield																				59	17			19			5					
Granite													100																			
Iron													97											1					1	½	½
Jordan													100																			
Juab								88					4													8						
Kane													96											4								
Millard													100																			
Nebo								100																								
North Summit								31			49		7			4								9								
Park City		100																														
Piute													100																			
Rich																	100															
San Juan													62					38														
Sevier									100																							
South Sanpete													100																			
South Summit													60													40						
Tintic													100																			
Tooele										100																						
Uintah												95											1	½						3½	
Wasatch								32					38						11			19										
Washington											28		16		14		22	20					1½	5		12						1½
Wayne													50									12		1½		15					1½	
Weber				100																												
Ogden		100																														
Logan							100																									
Provo						100																										
Murray										35			41			15								4					5			
Salt Lake City	100																															
TOTAL (State)	30	5½	1	2	9	3½	2	7	3	4	1	1¼	22	1¼	*	¾	½	¼	¼	¼	*	½	*	¾	¼	¾	*	*	*	*	*	*

RATES	.54	.57	.575	.60	.63	.64	.675	.68	.69	.70	.72	.74	.75	.80	.87	.90	.95	1.00	1.05	1.10	1.12	1.15	1.20	1.25	1.30	1.35	1.50	1.60	1.70	1.90	2.00	2.25

* Less than ¼ of 1 %

Insurance rates on school buildings in Utah range, therefore, between .54 and 2.25. 50% of the school property in Utah is insured at 54; 51% at .64 or less; and 92% for .75 or less. The general causes for the differences in rates have been mentioned, i.e., superior buildings, better protection, and the co-insurance clause. Just how much each factor influences the rate it is hard to say, in a general statement. Something of the importance of co-insurance is indicated in the following table[1] which shows the general principle of co-insurance in relation to rate reduction.

Table Showing the Variation in Premium Cost; Without and With Co-Insurance. Sound Value $40,000.

	Without Co-ins.	With Co-insurance Clause of 50%	60%	70%	80%	90%
Rate	$ .80	.64	.58	.528	.48	.44
Premium	320.00	128.00	139.00	147.84	153.40	158.40
Maximum Adjustment	$40,000.00	$20,000.00	$24,000.00	$28,000.00	$32,000.00	$36,000.00

The table shows that $40,000 insurance on a building at a rate of $.80 without co-insurance would cost $320. Insurance on the same building with co-insurance of 90% would cost $158.40. In case of a total loss the latter contract , however, would return only $36,000.

School districts in Utah enjoying low rates all have co-insurance. This seems to indicate that co-insurance is an important factor in rate making.

1- Engelhardt "Public School Business Administration" p. 398

Have Utah Schools Proved to be Good Insurance Risks During the Past Twelve Years?

The most vital question to be answered in this survey is the one of loss ratio to premiums on school building property. If the loss ratio on school buildings in Utah has been lower than the loss ratio on all property insured against fire, then Utah schools are good risks and there should be rate adjustment in recognition of the fact. If the loss ratio on Utah schools has been higher than the general property loss, then Utah schools are poor risks and the rates should be higher.

The following tables will show the actual loss ratio to premiums paid, which, unfortunately, is 56.2% This figure, taken over a period of 12 years, shows why our insurance writers in this state tell us our school risks are poor risks. The reason for this high loss ratio is definitely the large loss of Millard High School in 1929. The $71,000. loss in Millard county represents 27% of the total loss for 12 years. The loss ratio on all property in United States insured against fire (see tables 9 and 10) ranges between 45% and 55%. The ratio of loss on all property in Utah insured against fire during the 19 years 1909 to 1927 inclusive, was 50% [1]

Table No. 5 gives premiums paid, by years, while table No. 6 reports adjustments received, by years. In each case totals appear on the margins, so that comparisons can be made readily.

---

1 - Tenth Biennial Report of Commissioner of Ins. of Utah, Page 11

Table No. 4

FIRE INSURANCE PREMIUMS PAID BY SCHOOL DISTRICTS OF UTAH DURING THE YEARS 1919 - 1930 INCLUSIVE

District	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	Total Premiums.	Total Adjustments Rec'd.	Ratio
Alpine		646.67:	1851.24:	2509.51:	1168.94:	1974.78:	2181.07:	1017.28:	2154.10:	2000.62:	1166.12:	1599.39:	1430.12	$19,699.84	$ 4,906.91	25 %
Beaver		*	*	*	*	*	*		997.50	634.50	135.	1711.25	960.21	4,438.46	31.86	¾ %
Box Elder	1198.9	820.62	1073.33	1204.70	1728.17	1722.89	1192 45	1673.82	1183.70	1096.00	1149.75	1258.13	981.76	16,284.22	1,200.00	7½
Cache		281.47	2409.30	1187.07	762.34	3853.87	312.05	906.14	3844.21	1320.43	1419.69	3993.06	2236.92	22,526.55	865.94	4
Carbon		809.67	1870.99	430.21	2141.02	3434.80	430.51	2764.01	4356.42	480.48	3007.34	4429.74	506.96	24,662.15	57,828.290	256
Davis		210.40	824.75	238.56	211.68	814.48	236.25	262.50	810.23	338.75	638.62	1575.08	366.15	6,527.45	100.00	½
Duchesne		85.75	228.88	580.25	208.45	548.00	394.75	300.63	404.20	821.23	470.00	380.75	908.98	5,331.87	1,750.000	33
Emery		740.	740.00	740.00	815.75	815.75	858.00	858.00	858.00	858.00	858.00	868.00	854.00	9,863.50	15,108.50	154
Garfield		*	*	225.00	12.50	31.25	----	25.00	37.50	255.00	37.50	78.40	370.00	1,072.15	00.00	0
Granite		1496.18	3369.20	1258.48	1573.90	3793.40	2636.72	841.53	6009.34	2460.30	2813.69	5516.29	3490.89	35,259.92	208.12	½
Iron		270.00	350.00	135.00	150.00	-----	332.75	-----	113.75	430.08	514.97	881.19	763.96	3,941.70	00.00	0
Jordan			17.50	2680.08	949.95	1097.03	760.81	4018.47	1405.38	595.69	4359.84	2298.92	2106.14	20,289.81	19,184.34	94
Juab		288.70	103.50	58.50	-----	503.00	103.50	456.17	427.98	86.25	472.75	382.23	92.25	2,974.83	00.00	0
Kane		*	*	*	*	*	*	*	*	*	262.50	296.25	----	558.75	00.00	0
Millard		276.98	202.50	1651.95	138.40	------	1810.55	210.00	607.50	1733.55	210.00	907.50	2262.90	10,011.83	71,000.00	700
Morgan		*	96.00	145.00	94.00	213.00	68.00	349.00	585.99	501.24	405.28	418.27	247.50	3,122. 29	135.00	3
Nebo		1111.56	1213.50	958.22	1930.17	513.24	958.16	2026.48	499.90	1080.38	1958.08	1166.70	2015.72	15,432.11	141.70	1
North Summit		*	*	*	*	*	521.90	509.52	859.02	779.40	637.81	730.28	564.92	4,602.85	00.00	0
Park City		56.00	202.65	669.52	------	97.87	856.50	25.50	45.00	720.00	460.59	45.00	731.33	3,909.96	00.00	0
Piute		53.43	53.43	53.43	146.83	146.83	146.83	201.41	201.41	201.41	241.41	241.41	241.41	1,929.34	00.00	0
Rich		*	*	*	*	*	*	*	160.00	78.75	-----	161.25	125.75	525.75	39.75	7½
San Juan		90.00	13.75	-----	-----	76.96	540.00	-----	58.30	422.74	34.18	58.73	246.25	1,540.91	1,184.82	77
Sevier		*	*	*	*	*	*	688.13	3388.29	586.11	964.78	2883.00	978.20	9,488.51	2,164.93	23
South Sanpete		225.39	103.30	536.39	382.06	338.95	338.95	338.95	161.11	1270.54	218.35	175.76	1068.73	5,158.48	3,637.04	70½
South Summit		*	*	*	386.75	148.00	148.00	70.75	296.25	110.65	48.75	219.75	297.00	1,635.90	897.95	55
Tintic		924.28	814.16	469.14	621.36	941.73	725.90	1091.59	480.19	842.39	1138.12	351.21	838.85	9,238.92	350.41	4
Tooele		471.43	520.00	243.57	555.24	581.00	731.00	2600.73	170.87	3214.52	2376.30	1373.30	994.05	13,832.01	6,631.86	50
Uintah		672.43	662.60	657.88	731.03	701.03	744.70	638.62	1465.43	467.46	1597.70	387.54	1021.02	9,747.44	370.50	4
Wasatch		245.65	245.65	245.65	187.50	245.77	244.80	649.60	564.80	337.18	1022.10	564.80	745.50	5,299.00	7,531.13	150
Washington		*	*	*	*	172.53	424.84	261.22	108.57	520.35	174.65	229.50	700.84	2,592.50	416.47	17
Wayne		*	*	*	185.50	151.50	192.00	176.25	109.02	120.00	118.75	106.25	156.00	1,315.27	00.00	0
Weber		947.81	1193.13	1739.25	1911.79	714.70	793.46	565.53	1012.24	911.13	1062.60	681.00	372.00	11,904.64	620.05	5
Ogden		1,107.69	3,300.92	1,177.00	6257.39	------	-----	6057.60	496.00	449.76	4336.86	2462.58	2634.43	28,280.23	4,750.42	17
Logan		682.57	932.95	217.35	1587.13	511.25	147.40	1139.46	1124.55	306.44	1390.22	1080.77	366.50	9,486.59	8.37	0
Provo			251.02	727.00	60.50	272.35	726.00	100.50	475.90	1266.20	328.20	528.26	217.50	4,953.43	00.00	0
Murray		92.17	159.43	452.56	88.28	154.85	501.19	208.13	516.19	139.38	218.13	516.19	390.06	3,436.56	00.00	0
Salt Lake City		5898.07	2126.75	8830.03	13319.59	5269.94	7820.55	12118.85	12391.84	8110.35	12652.64	14517.80	9831.33	112,887.74	48,158.03	42
TOTALS		$18,504.92	30,021.30	29,840.75		43,151.37		35,547.26		55,075.53				$ 443,763.36	$249,222.39	56.2 %
		$1198.90	$24,930.43	38,306.22		27,879.59		48,289.69		48,901.27		42,116.13				
ADJS. REC'D		$ 3,173.49	496.74	16,685.87		1,908.68		28,404.73		77,149.55						
		38,688.36	15,000.00	25,924.59		27,983.83		11,449.34		2,357.21						

* Records not available

"Ratio" - Adjustments received to premiums paid

ADJUSTMENTS OF FIRE LOSSES RECEIVED FROM INSURANCE COMPANIES BY UTAH SCHOOL DISTRICTS 1919 - 1930

District	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	Total Adjustments Rec'd.	Total Premiums Paid	Ratio
Alpine										5.25	3190.13	1711.53		$4,906.91	$19,699.84	25 %
Beaver		*	*	*	*	*	*				25.00	6.86		31.86	4,438.46	
Box Elder													1200.00	1,200.00	16,284.22	7½
Cache									708.43	38.75		118.76		865.94	22,526.55	4
Carbon							25588.34		693.75	28,205.64	399.60	2940.96		57,828.29	24,662.15	256
Davis								100.00						100.00	6,527.45	½
Duchesne								1750.00						1,750.00	5,331.87	33
Emery					15000.00					108.50				15,108.50	9,863.50	154
Garfield														00.00	1,072.15	0
Granite									65.53	5.72	86.12		50.75	208.12	35,259.92	½
Iron														00.00	3,941.70	0
Jordan			64.01	496.74					18569.40			54.19		19,184.34	20,289.81	94
Juab														00.00	2,974.83	0
Kane		*	*	*	*	*	*	*	*	*				00.00	558.75	0
Millard												71000.00		71,000.00	10,011.83	700
Morgan		*					50.00	50.00	35.00					135.00	3,122.29	3
Nebo									126.70			15.00		141.70	15,432.11	1
North Summit		*	*	*	*	*								00.00	4,602.85	0
Park City														00.00	3,909.96	0
Piute														00.00	1,929.24	0
Rich		*	*	*	*	*	*	*				39.75		39.75	525.75	7½
San Juan									1000.00		184.82			1,184.82	1,540.91	77
Sevier		*	*	*	*	*	*	*			2040.00	124.93		2,164.93	9,488.51	23
South Sanpete							3637.04							3,637.04	5,158.48	70½
South Summit		*	*	*	*											
Tintic							263.87			20.50	123.11	754.34		897.95	1,635.90	55
Tooele									6426.55			86.54		350.41	9,238.92	4
												90.60	114.71	6,631.86	13,832.01	50
Uintah											370.50			370.50	9,747.44	4
Wasatch							7500.00			12.00	19.13			7,531.13	5,899.00	150
Washington		*	*	*	*	*		8.68	30.00			200.00	177.79	416.47	2,592.50	17
Wayne		*	*	*										00.00	1,315.27	0
Weber												6.09	613.96	620.05	11,904.64	5
Ogden			4249.15				278.89	22.38					200.00	4,750.42	28,280.23	17
Logan										8.37				8.37	9,486.59	0
Provo														00.00	4,953.43	0
Murray														00.00	3,436.56	0
Salt Lake City		3173.49	34375.20				5269.94		328.47		5010.93			48,158.03	112,887.74	42
TOTALS		$3,173.49		496.74		16,685.87		1,908.68		28,404.73		77,149.55		$249,222.39	$ 443,763.36	56.2 %
			$38,688.36		15,000.00		25,924.59		27,983.83		11,449.34		2,357.21			
Premiums		$18,504.92		30,021.30		29,840.75		43,151.37		35,547.26		55,075.53				
Paid	$ 1198.90		24,930.43		38,306.22		27,879.59		48,289.69		48,901.27		42,116.13			

* Records not available

"Ratio" - Adjustments Received to Premiums Paid

CLASSIFICATION OF FIRE LOSSES IN UTAH SCHOOL BUILDINGS 1919 - 1930

Table No. 6.

Amount	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	TOTAL
Under $ 50.							1	1	2	6	2	4		16
$50. to $ 199.			1				1	2	2	1	3	5	3	18
200. to 499.				1	1	1	1		1		2	1	1	9
500. to 999.									2			1	1	4
1000. to 1999.								1	1			1	1	4
2000. to 2999.											1	1		2
3000. to 4999.		1	1			1					1			4
5000. to 7999.						2			1		1			4
8000. to 9999.														0
10000. to 14999.														0
15000. to 19999.					1				1					2
20000. to 29999.							1			1				2
30000. to 39999.			1											1
40000. to 49999.														0
50000. to 59999.														0
60000 to 69999.														0
70000. to 79999.												1		1
TOTALS	1	3	1	2	4	4	4	10	8	10	14	6	67	

The experience of the Bear River Mutual in school building insurance in Utah does not show such a large loss ratio. This company offers five year protection for nearly the same premium that other companies have given three-year protection.

The summary of all policies written and all adjustments paid on school buildings in Utah since 1916 follows:[1]

Year	Policies Written	Premiums Received	Losses Paid
1916	8	$163.00	
1917	11	231.00	
1918	18	298.00	
1919	7	137.00	$36.00
1920	0		
1921	8	188.00	
1922	10	210.00	
1923	10	224.00	
1924	0		
1925	2	336.00	
1926	21	611.00	1110.00
1927	1	11.00	
1928	4	267.00	
1929	2	122.00	6.53
1930	1	338.00	
1931	1	41.00	2.70
Total	104	$3178.25	$1155.23

Loss Ratio 36.3%

This loss ratio is considerably lower than other companies have experienced with Utah school risks, and tends to indicate that 56.2% is too heavily influenced by the one large loss. Although the scope of this business was limited, yet the selection of desirable risks and efforts to prevent fire were partly responsible for the ratio.

1- Data gathered by the writer from record kept by the company

Some Features of Fire Insurance Policies Carried by Three School Districts of Utah

An interesting comparison might be made of insurance conditions in Utah by a more complete analysis of policies carried by three school districts. These comparisons will show that there is very little uniformity in some details of our insurance.

The policies covering the insurance of school buildings at the present time in Box Elder, Cache and Logan districts were examined, and the following facts were found: Box Elder has many policies, Cache has few. Logan pays one rate, Cache four rates and Box Elder twelve rates. Cache insures most school property with mutuals; Logan distributes 72% to stock companies, 25% to mutuals and 3% to a Lloyd company, while 95% of the insurance in Box Elder is carried by stock companies.

Box Elder has no policy larger than $13,000, most of the policies being less than $4000. while Cache carries no policy under $4000. and has one policy over $400,000.

In many cases Box Elder pays different rates on the same building for policies issued by the same company. There seems to be no satisfactory answer to explain the great variation in rates on a given building, although two answers are given:

1. Rates fluctuate and policies have different dates.
2. Some policies are written upon the contents of the buildings.

FIRE INSURANCE POLICIES CARRIED BY CACHE AND LOGAN

SCHOOL DISTRICTS* 1931

RATE PER $100 TERM 3 YEARS

District	Company Writing Ins.	Policy	Rate
CACHE	Hartford Fire Ins. Co	$5500.00	.614
	Niagara Fire Ins	79,000.00	.614
	New York Underwriters	8,000.00	.60
	Utah Home Fire	25,000.00	.60
	Fidelity Fire	5,500.00	.60
	North Western Mutual	449,800.00	.63
	North Western Mutual	130,000,00	.68
	Hartford Ins.	72,000.00	.60
	North Western Mutaul	28,000.00	.63
	North Western Mutual	4,500.00	.63
LOGAN	North Western Mutual	$50,000.00	.675
	Oregon Mutual	11,155.00	.675
	Oregon Mutual	25,000.00	.675
	Eureka	75,095.00	.675
	Ins. Co. of N.A.	2,000.00	.675
	Ins. Co. of N.A.	1,500.00	.675
	Ins. Co. of N.A.	8,000.00	.675
	Ins. Co. of N.A.	1,500.00	.675
	New York Underwriters	13,000.00	.675
	New York Underwriters	7,600.00	.675
	Intermountain Lloyds	10,000,00	.675
	Firemen's Fund	12,000.00	.675
	Firemen's Fund	1,000,00	.675
	Firemen's Fund	1,000.00	.675
	Firemen's Fund	9,600.00	.675
	Home Fire of Utah	6,100.00	.675
	Milwaukee Merchants	10,000.00	.675
	Merchants' Fire Co.	13,600.00	.675
	Security Insurance	4,000.00	.675
	Security Insurance	11,000.00	.675
	Continental Ins.	5,000.00	.675
	Royal Insurance Co	7,600.00	.675
	Royal Insurance Co	11,350.00	.675
	Home Fire of New York	2,700.00	.675
	Home Fire of New York	6,100.00	.675
	Associate Fire and Marine	12,000.0	.675
	Detroit Fire and Marine	1,900.00	.675
	Urbaine Fire Ins. Co	9,100.00	.675
	Lincoln Fire Ins. Co	10,000.00	.675

FIRE INSURANCE POLICIES CARRIED BY BOX ELDER DISTRICT 1931

Rate Per $100 Term 3 Years

School	Company writing policy	Amount	Rate
BEAR RIVER HIGH SCHOOL			
	New York Underwriters	$5000.	.75
	National Underwriters	5000.	.75
	Utah Home Fire	6000.	.75
	Connecticut Fire Ins. Co.	5000.	1.15
	Merchants' Fire	5000.	.75
	Home Insurance (Utah)	5000.	.75
	Utah Home Insurance	5000.	1.35
	Niagra Fire	5000.	1.15
	Ins. Co. of North America	5000.	1.35
	Utah Home Fire Ins.	2500.	1.15
	Niagra Fire	7500.	1.15
	Ins. Co. of N. A.	4000.	1.15
	Niagra Fire	6500.	.75
	Ins. Co of N. A.	5000.	1.00
	Ins. Co of N. A.	5000.	1.00
BOX ELDER HIGH SCHOOL			
	Franklin Fire Ins. Co.	1500.	6.00
	Ins. Co. of N. A.	4000.	.75
	Connecticut Fire	8000.	.75
	Franklin Fire	4500.	.75
	Queen Fire Ins. Co.	5000.	.90
	Utah Home Fire	2000.	1.10
	Connecticut Fire	2000.	.75
	Utah Home Fire	3000.	.90
	Ins. Co. of N. A.	5000.	1,10
	Connecticut Fire	5000.	.90
	Eureka Security	6000.	.75
	Home Fire Ins. Co.	5000.	.90
	Milwaukee Merc. Fire Co.	5000.	1.00
	Utah Home Fire	2000.	.90
	Connecticut Fire	5000.	.75
	Fidelity Phonix	10000.	.75
	Fidelity Phoenix	3000.	.75
	Ins. Co. of N. A.	5000.	.75
	Firemen's Ins. Fund	10000.	.75
	Firemen's Ins. Fund	5000.	.90
	Franklin Fire Ins. Co.	13000.	.90
	Franklin Fire Ins. Co.	2000.	1.60

1- This policy written on the bleachers in stadium

FireInsurance Policies of Box Elder District- Continued

		Amount	Rate
BEAR RIVER CITY			
	Security Ins. Co.	$1000.	.75
	Fidelity Fire	7000.	1.10
	Security Ins. Co.	1000.	1.00
	Security Ins. Co.	1000.	1.00
	Bear River Mutual *	2000.	1.00
BOOTHE VALLEY			
	Hartford Fire Ins. Co.	1500.	2.00
BLUE CREEK			
	Connecticut Fire	2000.	2.00
BOTHWELL			
	Security Ins, Co.	1500.	1.15
	Ins. Co. of N. A.	2000.	1.35
CENTRAL SCHOOL			
	Firemen's Fund	3000.	.75
	Home Fire of New York	4000.	1.10
	Utah Home Fire	4000.	.90
	Milwaukee Merc.	2000.	.85
	National Underwriters	3000.	.85
	Mercantile Fire	2000.	.90
	National Underwriters	1000.	.90
	Utah Home Fire	5000.	.90
	Home Ins. of New York	4000.	1.15
CORINNE			
	Stuyvesant Ins. Co.	2000.	.75
	Bear River Mutual *	3000.	1.00
CLEAR CREEK			
	Home Fire of N. Y.	2000.	2.00
COLLINSTON			
	Utah Home Fire	2000.	1.35
DEWEYVILLE			
	Stuyvesant Ins. Co.	750.	.75
	Utah Home Fire	1750.	.75
	Home Ins. Co. of N. Y.	750.	.75
	Bear River Mutual *	2000.	1.00
	Home Fire of N. Y.	3000.	1.15
	Utah Home Fire	1750.	1.15
	Fidelity Phoenix	2000.	1.15

* All policies of Bear River Mutual 5 year term - others 3

Fire Insurance Policies of Box Elder District - Continued

		Amount	Rate
ELWOOD			
	Bear River Mutual *	$2000.	1.00
	Ins. Co. of N. A.	2000.	1.35
	Ins. Co of N. A.	1000.	1.35
	Security Ins. Co.	3000.	1.15
FIELDING			
	Firemen's Fund	2000.	1.35
	Utah Home Fire	2000.	1.35
	Firemen's Fund	3500.	.75
GARLAND			
	Hartford Ins. Co.	2000.	.75
	Utah Home Fire	4000.	1.05
	Utah Home Fire	4000.	1.05
	Queen Ins. Co.	4000.	1.05
GROUSE CREEK			
	Merchants' Fire Co.	1400.	1.15
	Connecticut Fire	1500.	1.35
	Firemen's Fund	1400.	1.35
	Home Fire of New York	1200.	1.15
HONEYVILLE			
	Hartford Fire Ins. Co.	2000.	1.00
	Fidelity Phoenix	2000.	.75
	Bear River Mutual *	3000.	1.00
	Connecticut Fire	2000.	.75
	Security Ins. Co.	2000.	1.15
HOWELL			
	Home Fire of New York	1500.	1.35
JUNCTION			
	Home Fire of New York	500.	2.00
LINCOLN			
	Eureka Security	2000.	.75
	Hartford Fire	5000.	.75
	Franklin Ins. Co.	1000.	.75
	Queen Ins. Co.	3000.	.90
	Eureka Security	3000.	.75
	Utah Home Fire	3000.	.90
	North Western National	1500.	.75
	National Union Fire	3000.	.85
	Eureka Security	3000.	.85
W. V. CALL			
	Firemen's Fund	3000.	.70
MANTUA			
	Home Fire of New York	2500.	1.15
	Bear River Mutual	5000.	1.00
	Ins. Co. of N. A.	2000.	.75
PROMONTORY			
	Home Fire of New York	2000.	2.00
EAST PROMONTORY			
	National Union Fire	1500.	2.00

* Bear River Mutual policies for 5 year terms.

Fire Insurance Policies of Box Elder District - Continued

		Amount	Rate
PORTAGE			
	Home Fire of New York	$5000.	.75
	Home Fire of New York	5000.	.75
PARK VALLEY			
	Firemen's Fund	3000.	.75
	Connecticut Fire	2000.	1.35
PERRY			
	Connecticut Fire	2000.	.90
	Connecticut Fire	3000.	1.35
	Aliance Fire	2000.	.75
	Security Insurance	3000.	1.35
	Ins. Co. of N. A.	2000.	1.15
PENROSE			
	Security Ins. Co.	4000.	1.00
PLYMOUTH			
	Utah Home Fire	2000.	1.35
	Hartford Fire	2000.	1.15
RIVERSIDE			
	Firemen's Fund	1000.	.75
	Firemen's Fund	2000.	1.35
	Utah Home Fire	2000.	1.35
ROSETTE			
	Queen Insurance Co.	3000.	1.25
SNOWVILLE			
	Home Fire of New York	1000.	.75
	Utah Home Fire	4000.	1.35
	Utah Home Fire	2000.	1.15
TREMENTON			
	Bear River Mutual	5000.	1.00
	Security insurance	3000.	1.25
	Stuyvesant Ins.	2000.	.75
	Security Ins.	1600.	1.05
	Ins. Co. of N. A.	1100.	1.25
	Security Insurance Co.	1600.	.75
	Security Insurance Co.	1000.	.90
THATCHER			
	Bear River Mutual	2000.	1.00
	Security Ins.	4000.	1.00
WILLARD			
	Security Ins. Co.	5000.	.75
	Security Ins. Co.	1000.	.75
	Stuyvesant Fire	1000.	1.35
	Security Ins. Co.	2000.	1.35
	Bear River Mutual	3000.	1.00
	Bear River Mutual	1000.	1.00
YOST			
	Hartford Fire	2200.	2.00
	Hartford Fire	2000.	1.15

Table No. 7.

SUMMARY OF FIRE INSURANCE POLICIES CARRIED BY THREE SCHOOL DISTRICTS OF UTAH

(Number of policies, amounts, rates)

CACHE DISTRICT

.60	.614	.63	.68	Total
Number of Policies				
				0
				0
				0
				0
			1	1
	2			2
				0
	1			1
				0
				0
	1	1		2
				0
		1		2
1	1			2
			1	1
			1	1
1	5	3	1	10

5 Stock Companies carry 20% of the business
1 Mutual carries 80% of the business

LOGAN DISTRICT

.675	Total
No. of Pol.	
	0
5	5
2	2
0	0
1	1
1	1
2	2
3	3
6	6
4	4
	0
1	1
1	1
1	1
	0
1	1
29	29

19 Stock Co. 72 % business
2 Mutuals 25 % business
1 Lloyd 3 % business

BOX ELDER DISTRICT

RATES	.70	.75	.85	.90	1.00	1.05	1.10	1.15	1.25	1.35	1.60	2.00	Total
	Number of Policies												
$500 to $999.		2											2
1000 to 1999.		8		2	3	1		4	1	5		2	26
2000 to 2999.		8	1	3	5		1	8		10	1	4	41
3000 to 3999.	1	5	3	3	3			2	2	2			21
4000 to 4999.		2		1	2	3	1	2		1			12
5000 to 5999.		9		5	5		1	2		2			24
6000 to 6999.		3											3
7000 to 7999.							1	1					2
8000 to 9999.		1											1
10000 to 11999.		1											1
12000 to 13999				1									1
14000 to 19999													0
20000 to 29999													0
30000 to 49999													0
50000 to 69999													0
70000 to 99999													0
100000 to 199999													0
Over $400,000													0
TOTALS	1	39	4	15	18	4	4	19	3	20	1	6	134

19 Stock Companies carry 95 % of the business
1 Mutual carries 5 % of the business.

Is the System of School Building Insurance Practiced in Utah an Economical System?

The following questions are proposed as bases upon which to formulate and answer to the general question:

1. What are the basic principles underlying the science of fire insurance?
2. Do risks show enough uniformity that one can generalize from conditions in Utah over the past twelve years to predict the future?
3. Are there some causes of fires so important that their correction would materially reduce the numbers of fires?
4. What portion of the fire insurance premium is actually expended in replacing property destroyed by fire?
5. Are school buildings good insurance risks?
6. What systems of fire insurance are practiced today and what are the advantages and limitations of each?
7. What advantages do Utah schools enjoy that might fit them for choosing a given system?

What are the Basic Principles underlying the Science of Fire Insurance?

These principles, gleaned from writers in the field of insurance, 1 are not direct quotations, but are briefly enumerated with no attempt made to secure coherence. Insurance is preeminently social in nature; it represents in the highest degree cooperation for mutual benefit.

Insurance is not a scheme wherein the insured may profit at the expense of the insurer, in case of fire.

Insurance is the exact opposite of gambling. Gambling creates a hazard by introducing a risk; insurance neutralizes the existing risk.

Mowbray, "Insurance; Its Theory and Practice in the United States"
Hardy, "Risk and Risk bearing"
Riegel and Loman "Insurance Principles and Practices
Huebner "Property Insurance"

The science of fire insurance is based upon the sound value of property insured and its probability of destruction.

The person insured must possess insurable interest or a real interest in the subject matter insured.

The risk must be a real risk and improtant enough to warrant a contract.

It is necessary that the hazard involved be capable of approximate mathematical calculation.

Insurance involves the accumulation of large funds to meet future continginces.

The fund must be available step by step as destructible property is acquired.

A wide distribution of risks reduces the variation in losses from year to year and consequently renders the operation of the insurance business more certain and sure.

In the operation of a self-insurance system the larger the area over which the risks are distributed, and the larger and wider and more varied the risks, the more nearly does it approach the risk assumed by insurance companies.

Large catastrophes prevent the proper working of the law of average. The law of average means random selection of risks

It is essential to the law of average that the size of the individual risk shall not vary too greatly. The maximum risk which will be accepted depends to a large extent upon the size of the insuring company.

When a company assumes a risk too large it usually re-insures a part of the risk with larger companies.

"If a loss occurs in a district carrying insurance, the future generation benefits by a small present expenditure; if no insurance is carried, the present and future generations pay the loss; if insurance is carried, and no loss occurs, neither the present nor the future taxpayer is directly benefitted." 1

1- Melchior, "Insuring Public School Property."

Do Risks Show Enough Uniformity That One Can Generalize From Conditions in Utah Over the Past Twelve Years to Predict the Future?

The science of fire insurance is the application of the law of average. It is essential to the law of average that a wide sampling, both as to time, place, and kind of risk be made before generalities can be drawn with assurance. Our experience in Utah in the past 12 years may or may not be our experience during another similar period. The fact that school risks are well scattered is a point in favor of uniformity of size of losses, but the fact that some of our buildings represent risks with large expectation of loss means that a single large loss would upset our calculations.

Table 8 following [1] pictures the loss ratio of adjustments paid to premiums received on all property in United States insured against fire 1860 to 1913. The larger moral hazard of insuring all kinds of property against fire usually shows itself by larger fire losses during times of depression. Since this table is not a picture of school losses only, it should merely be interpreted to represent the fluctuation of fire losses.

From the table it is clear to see that the true loss ratio in insurance must be drawn from conditions over a number of years, representing many risks. A single risk is no indicator; a few risks are also practically worthless for prediction purposes, and it is only with many years of experience with many risks that reliability of prediction is attained.

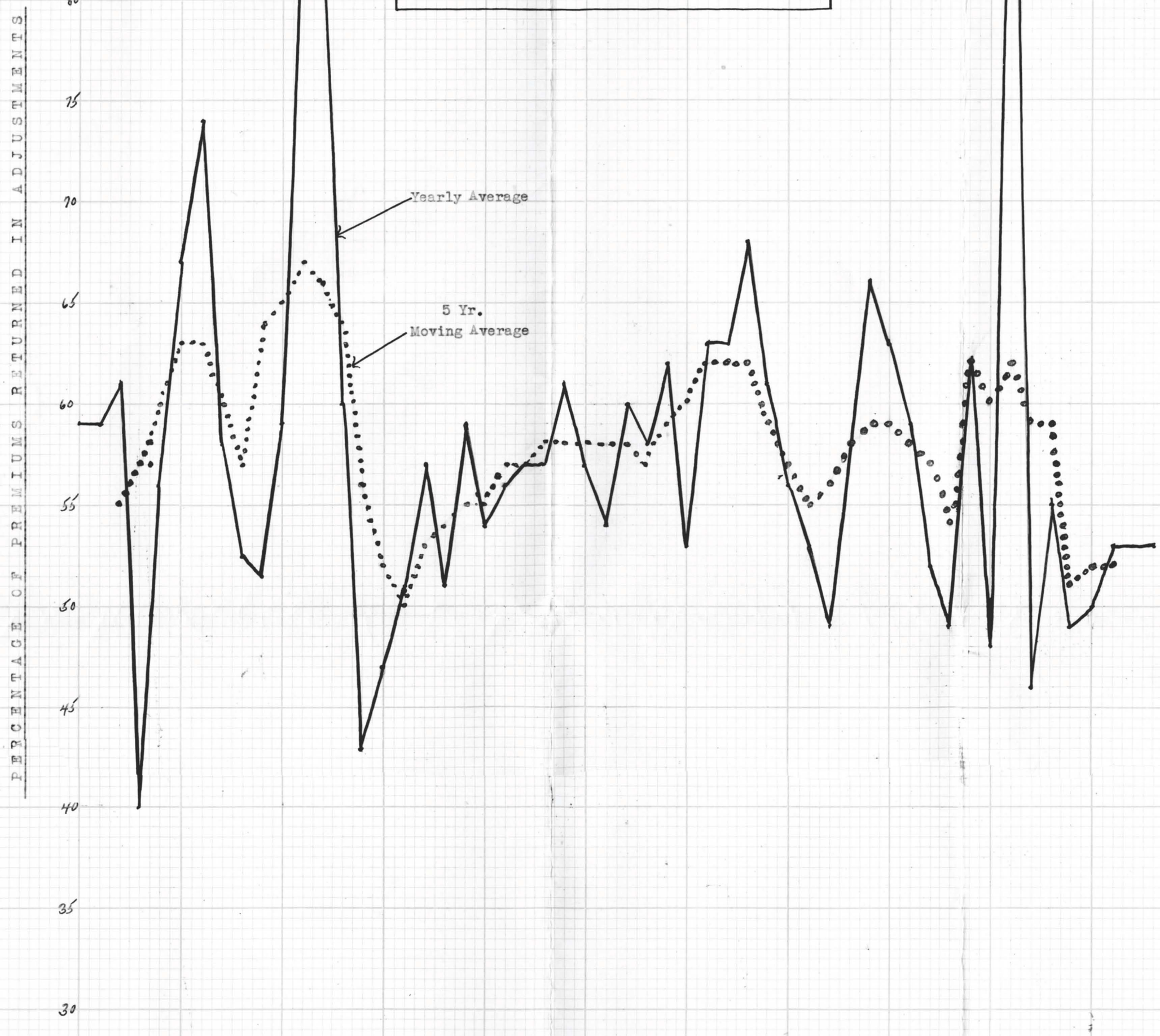
---

1 - Actuarial Bureau, National Board of Fire Underwriters.

Table No. 8.

TABLE OF LOSS RATIO OF GENERAL FIRE INSURANCE FOR 54 YEARS, IN U.S.

(Losses Incurred to Premiums)



LARGE FIRES IN U. S.

Year	Place	Loss
1866	Portland, Me.	$ 10,000,000
1871	Chicago, Ill.	168,000,000
1872	Boston, Mass.	75,000,000
1904	Baltimore, Md.	50,000,000
1906	San Francisco	350,000,000

From
(National Board of Fire Underwriters)
Policy Holders' Pocket Index p. 128 - 1932
The Spectator Company

Table of Number of School Fires Occurring in Ten Years in New York City, San Francisco, Philadelphia, Baltimore. 1*

Year	N. Y.	San.	Phil.	Balt.	Total.
1918	40	1	5	7	53
1919	23	4	5	6	38
1920	54	10	9	9	82
1921	41	11	6	7	65
1922	48	18	8	6	80
1923	49	11	19	6	85
1924	49	11	12	4	76
1925	48	20	16	8	92
1926	43	12	16	16	87
1927	41	5	17	5	68

Upon the facts in the foregoing tables it is unsafe to assume that the school building fire loss in Utah will be uniform from year to year. No steps should be taken to establish a new fire insurance system unless provision is made to care for the large and dangerous risks.

Although the number of fires occurring in New York City remained fairly constant during the ten year period, San Francisco had twenty times the number of school fires in 1925 it had in 1918.

1- "School Fires", National Fire Protective Association 1931

Are There Some Causes of Fires so Important that their Correction Would Materially Reduce the Number of Fires?

The fundamental cause of fires is carelessness in various forms, such as neglect of heating apparatus, the use of open flame lights under dangerous conditions, carelessness with matches and smoking materials, rubbish accumulations and similar preventable causes, The National Fire Protection Association 1* has estimated that at least 80% of the school fires are preventable, and indeed almost all causes are preventable, since lighting rods reduce the loss of what is often considered to be an unpreventable cause. There is every reason to believe that property fires would largely disappear if vigilant watch and constant effort were expended in fire prevention.

Reference to the following tables will show that the causes of school fires are not particularly different from other occupancies, as the seven items responsible for 80% of the known causes of 575 school fires are among the important causes of general property destruction by fire. These causes are clues for a program of prevention.

1- Bulletin "School Fires" 1931 National Fire Protection Association Boston, Mass.

Causes of 575 School Fires 1*

Electrical Causes----------20%
Spontaneous Generation----------13%
Smoking-Matches----------12%
Defective or Overheated Heating Equipment----------11%
Defective or Overheated Flue or Chimney----------10%
Incendiary---------- 8%
Sparks on Wooden Shingle Roof---------- 6%

The four highest ranking causes of another study of school fires years 1916 to 1920, inclusive, representing 83% of the known causes are: 2

Stoves, furnaces, boilers and their pipes----------33%
Defective chimneys and flues----------23%
Sparks on the roof----------14%
Matches and Smoking----------13%

The seven highest ranking causes of general fire loss in the United States in 1921 and 1922 were: 3

Exposure----------30%
Matches and Smoking----------13%
Defective chimneys----------10%
Spontaneous combustion---------- 9%
Stoves, furnaces, boilers and their pipes---------- 8%
Electricity---------- 7%
Sparks on a shingle roof---------- 7%

That artificial heating and lighting are responsible for a large percentage of property fires is further proved by the following table, which gives the estimated fire losses

---

1- "School Fires" Bulletin N. F. P. A. 1931
2- "Safegaurding America Against Fire" Bulletin N. F. P. A.
3- Report of Actuarial Bureau National Board Fire U.

by months for the past five years.[1]

Estimated Fire Losses By Months for Five Years
(In U.S. and Canada)

January	$209,348,000.00	11.0%
February	183,081,380.00	9.5
March	184,281,406.00	9.5
April	198,505,791.00	10.5
May	147,223,750.00	7.7
June	130,704,129.00	7.0
July	139,911,643.00	7.4
August	136,347,372.00	7.2
September	122,846,611.00	6.4
October	128,108,759.00	6.7
November	131,048,777.00	7.0
December	188,782,253.00	10.0

Utah, and indeed any other state might easily profit from these experiences. Even in New York City, Melchior[2] found heating apparatus and defective flues and chimneys charged with 76% of the loss on school buildings, or three times as much as any other known cause; 82% of the losses were due to causes classified as strictly preventable.

Since school buildings generally are more or less isolated the great cause of general fires, exposure, is less important as a cause of school fires. Utah enjoys more isolation in school building risks than do some states in the Union, although Utah is definitely a village state.

1- Condensed from a table in Bests Insurance Guide, 1931 page 492
2- Melchior "Insurance of Public School Property" - 1927

That the fire losses in Utah schools over a period of twelve years have resulted in the return to the districts of 56.2 premiums paid, while the national ratio for seven years was 43.84 for schools 1* and 46.71 for dwellings, indicates that something is lacking in effort of fire prevention among our schools. The fact that 27% of these losses is represented in one risk and that the loss ratio of all school buildings except this one risk, has been 41% explains our high loss but does not guarantee it will never happen again.

It would seem that Utah schools might concentrate effort upon the great cause of school fires, artificial heating and lighting, and with a meager investment realize actual profit as did Manhattan, Kansas. By removing existing fire hazards at a cost of $124.30. Manhattan was able to reduce insurance rates $544.96 for the year's premiums and $179. for each succeeding year. 2*

1- Confidential Report of National Board of Fire Underwriters for 1922 to 1928

2- "Rewriting School Property Insurance at Manhattan, Kansas." American School Board Journal 76; 172; June, 1928.

What Portion of the Fire Insurance Premium Charged by Stock Companies is Actually Expended in Replacing Property Destroyed?

Mutual organizations are usually able to offer lower fire insurance rates than are stock companies. The mutual is able to do this for reasons to be explained later, among which are the facts that the operating expense of a mutual is usually less than that of a stock company.

The following table 1* from Bests Insurance Guide shows the percentage of net loss to premiums written and the net expenses to premium of between 144 to246 fire insurance companies during the years 1918 to 1929. Any economies in rate possible in the fire insurance program of Utah schools might be indicated in this table.

1- Best's Insurance Guide for 1931, Page 535.

* Melchior concluded "Out of every dollar 64.4 cents remain with the insurance companies."

Table No. 9.

GENERAL TABLE OF FIRE AND LIGHTNING BUSINESS IN THE U. S.

(U. S. and Foreign Companies)

Year	No. of Companies	Annual Rate of Premium $100. Insur.	Net Premiums Written	Ratio Losses to Pre.	Percent Expense	% Agents' Comp.	% of Taxes
1918	144	$1.0131	$382,561,203	52.52 %	39.02 %	22.41	4.43 %
1919	159	1.0109	452,199,763	44.28	39.53	22.25	4.99
1920	169	.9617	533,946,143	54.57	41.11	22.67	5.16
1921	175	.9695	477,670,513	57.45	45.42	23.61	4.85
1922	174	.9434	505,449,688	58.26	42.39	23.76	5.42
1923	184	.8991	598,570,343	57.62	42.10	24.36	5.08
1924	197	.8922	595,920,717	60.16	44.17	25.00	5.40
1925	210	.8726	644,307,262	59.12	45.64	25.07	5.13
1926	210	.8625	679,039,920	55.61	44.41	25.34	5.12
1927	213	.8600	639,779,906	47.12	45.05	25.52	5.26
1928	234	.8340	639,449,423	46.60	46.30	25.61	5.88
1929	246	.8008	655,900,847	46.47	46.78	25.73	4.65

Taken from Best's Insurance Guide - 1931, page 535

The table indicates that the loss ratio in fire insurance is 45% to 55% of premium, that approximately 25% is agents' compensation and that taxes represent 4%. The rest of the premium of a stock fire insurance premium is given to overhead expense and dividends.

The 1931 Report of Underwriting and Investment Profits and Losses [1]* of 100 leading fire insurance companies in 1930 shows that the ratio of net loss incurred to income earned was 52.1 and the ratio of expenses incurred to income earned was 45.6 which left a profit of 2.3. If this report is taken over a period of 33 years, wherein the combined ratios of losses and expenses to premiums, of 105 companies are known the result is that losses and expenses represent 99.5% of all premium charges, leaving a ratio of profit of ½% during the same period. Insurance company directors estimate that they should have a margin of at least 3% in order to meet emergencies.

Insurance rates are therefore based upon the assumption that 45% to 55% of the premiums collected will be expended in adjustments for fire losses. There are many examples of municipal insurance systems operating on a great deal less loss ratio, but these cities have undertaken a consistent program of fire prevention.

1- From "The Spectator" N.Y. June 11, 1931.

Utah schools are not equipped with superior fire fighting devices, or are there many fire resistent buildings. Past experience with Utah school buildings has shown that they have been undesirable risks; the loss ratio over twelve years has been 56.2% of premiums paid.

Although we should expect the moral hazard in school property to be less than that of general property carried with an impersonal insurance company, yet we are obliged to recognize that at least one-half of the fire insurance premiums paid by our school districts are expended to adjust fire losses that occur under our present conditions.

If a company can reduce its expenses by eliminating agents, reducing overhead and securing tax exemption, there is a just reason to believe it could operate on a sound basis with a smaller premium, provided other conditions remain the same. If, in addition, something can be done to prevent fires, at a small investment, which undoubtedly is the case, then there are even more reasons for believing a system of insurance might be devised that will give more adequate insurance at lower rates.

Are School Buildings Good Insurance Risks?

Closely allied to the question regarding the apportionment of the premium is the question "Are School Buildings Good Risks?" It is often said that the wide distribution of risks, nature of occupancy, and absence of many factors that cause fires make school buildings a desirable risk, which means they are money making ventures for insurance companies. The following data are submitted on the subject:

In response to a personal inquiry addressed to insurance executives representing 34 companies, Melchior found that only three considered schools good risks, four considered them fair risks, twenty said their experience had been bad and seven reported their experience as very bad.[1] The vice-president of a large fire insurance company wrote in a letter.[2]

> "From the result of an experience extending over forty years and embracing the whole United States, we believe schools are a losing class for the companies, and there is practically no company which solicits such business, though I know of no company that prevents its agents from writing public school risks. The fire record on the class has been very bad, excepting:
>
> 1- In Canada, where they build for cold weather and in general build with an eye to permancy, more than we do in the States;
>
> 2- In Ohio where, as a result of the Collingwood school disaster a number of years ago, public schools

---

1 - Melchior "Insuring Public School Property."

2 - Ford H. MacGregor, Chief, Bureau of Municipal Information, University of Wisconsin. Letter Nov. 17, 1926. "The Municipality" XXII.

are required to have fire proof basements and to be entirely fireproof excepting as to roof timbers, if more than one story high;

3. On the Pacific Coast where the schools are nearly all one story and where the heating hazard is not severe and where the buildings are uniformily constructed without basements."

Table 10 gives an exact statement of the experience of the National Board of Fire Underwriters for the seven years 1922 to 1928, inclusive. Had this report covered a longer period it would have been more valuable, but the relationships between types of risks are fundamental, never the less. There is little evidence in this report to prove that school buildings are good or bad risks in themselves, for while the loss ratio throughout the entire U. S. on buildings both protected and unprotected is about 2% lower in school buildings, the loss ratio in the Pacific coast states does not show the same advantage. 1

Table 11 shows the "Basic Net Line" of three insurance companies, one English, one American and one a state organization. Both the English and American "Basic Net Lines" are used by four or five allied companies. The "Basic Net Line" is a table showing the amount of insurance a single company will carry in itself on a given risk. If the company insures a risk beyond the amount listed in its "Basic Net Line" schedule it does so by reinsuring the amount of the risk above with other insurance companies. This is in keeping with the policy distributing a hazardous risk among many companies. 2

1- Confidential report of 1931
2- Schedules of three companies operating in Utah (confidential).

Table No. 10.

NATIONAL BOARD OF FIRE UNDERWRITERS
1931 Report of Actuarial Bureau Committee
for
Years 1922 to 1928, inclusive.

	(Frame Protected)		(Brick and Stone)		(Unprotected)		(Protected and Unprotected)	
	Premiums	Loss Ratio	Premiums	Loss Ratio	Premiums	Loss Ratio	Premiums	Loss Ratio
CHURCHES								
Pacific Coast	$ 1,153,097	59.7 %	$ 846,069	21,69%	$ 337,799	48.2 %	$ 2,336,965	44.28%
United States	11,171,389	55.36%	27,404,409	43.8 %	5,743,285	42.62%	44,319,083	46.57%
SCHOOLS AND PUBLIC BUILDINGS								
Pacific Coast	2,574,249	54.77%	5,641,576	36.32%	4,110,269	39.74%	12,326,094	41.3 %
United States	15,049,426	53.59%	77,319,941	37.27%	33,229,952	54.71%	125,599,319	43.84%
DWELLINGS								
Pacific Coast	87,162,863	38.24%	6,754,717	18.36%	22,508,542	59.39%	116,426,112	41.18%
United States	800,881,598	44.13%	212,645,709	29.37%	191,666,963	76.73%	1,205,194,270	46.71%
MERCANTILE BUILDINGS								
Pacific Coast	18,005,780	38.45%	32,197,497	33.04%	6,415,546	74.79%	56,618,823	39.49%
United States	160,119,986	47.59%	367,765,038	46.13%	50,042,586	68.24%	577,927,610	48.45%

Pacific Coast states include Washington, Oregon, California, Nevada, Utah, Idaho
Montana, Colorado, Wyoming, Arizona, New Mexico.

APPENDIX III

Record of Insurance of School Buildings in _____ District.

(a)	(b)	(c)				(d)	(e)				(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)
City	School	Used for				Year Built	Cons't							Value	Insured Value	Rate	Term	Premium
		High School	Jr. High Sc.	Elementary	Un-used		Brick	Cement	Stone	Lumber	No. of Rooms	Auditorium	Gymnasium					

Total District Insurance Costs and Adjustments by Years.

Year	Cost	Adjustments
1930		
1929		
1928		
1927		
1926		
1925		
1924		
1923		
1922		
1921		
1920		
1919		

Date _____

Recorded by

Official Positio

Table 11

Basic Net Line of an American Company

	Protected	Ratio	Unprotected	Ratio
Schools	$ 25,000	100%	$ 2,500	100%
Mercantile Bldgs.	50,000	200%	5,000	200%
Other Public Bldgs.	37,500	150%	5,000	200%
Apartment Houses	55,000	220%	5,000	200%
Dewellings	55,000	220%	7,500	300%
Churches	25,000	100%	5,000	200%
Banks, Office Bldgs.	37,500	150%	5,000	200%
Theaters	37,500	150%	5,000	200%
Sugar Refineries	25,000	100%	2,500	100%

Basic Net Line of an English Company

	Protected	Ratio	Unprotected	Ratio
Schools	$ 1,000	100%	$1,000	100%
Mercantile Bldgs.	10,000	1000%	2,000	200%
Other Public Bldgs.	5,000	500%	2,500	250%
Apartment Houses	10,000	1000%	1,250	125%
Dewellings	25,000	2500%	1,000	100%
Churches	2,500	250%	1,250	125%
Banks, Office Bldgs.	20,000	2000%	6,250	625%
Theaters	3,750	375%	1,000	100%
Sugar Refineries	6,250	625%	3,750	375%

Table 11 Continued

Basic Net Line of a State Company

	Protected	Ratio	Unprotected	Ratio
Schools	$ 5,000	100%	$ 2,500	100%
Mercantile Bldgs.	10,000	200%	4,000	160%
Other Pub. Bldgs.	10,000	200%	3,000	120%
Apartment Houses	8,000	160%	2,000	80%
Dwellings	8,000	160%	2,000	80%
Churches	7,500	150%	4,000	160%
Banks, Office Bldgs.	10,000	200%	4,000	160%
Theaters	7,500	150%	4,000	160%
Sugar Refineries	7,500	150%	3,000	120%

The specific amount of each risk in a line is not to be compared to the same risk of another line, for each line is constructed to show the relative position of risks with in the same line. In each case the amount a company will carry on a school building is considered 100%, thus making a basis for comparison.

These figures tend to show that insurance companies regard school buildings their poorest risks. Only in two cases out of forty-eight will a company carry more insurance on a school building than it will on any of the other risks listed.

The reasons given by insurance executives for their general dislike of school building risks are:

1. Poor construction of school buildings
2. Low ratio of insurance to value
3. Poor supervision and care of buildings
4. Lach of fire protective apparatus in schools
5. The impersonal interest of people in public capacity towards public property.

The general answer to the question "Are school Buildings Good Risks?" is, therefore, "They are not good risks." In the experience of the writer, where in he interviewed several insurance men to obtain data for this study, only in one case did an insurance executive in this state say that he considered school building insurance a desirable business. 1 * The experience of Bear River Mutual has been favorable in school insurance in this state, but this experience is limited in its scope. If school buildings are poor risks any system of insuring school buildings should be planned in recognition of the excessive hazard.

There are factors which, it seem would operate to make the insurance of school buildings a desirable business, provided the same personal care were given to constructing protecting and preserving public property that on e is prone to give to his personal property.

1- George A. Christensen, Bear River Mutual. states his company's experience in insurance of school buildings in Utah has been favorable.

What Systems of Fire Insurance are Practiced by Schools Today, and What are Advantages and Limitations of Each?

In general, four different policies are followed by schools in United States in regard to the insurance of school property

1. That of carrying no insurance
2. That of insuring in a state fund
3. That of insuring in regular insurance companies
4. That of having a municipal fund.

All school districts in Utah and most school districts in the United States make some provision for insuring their property. Of 34 cities with population 100,000 or above, Melchior found that 11 made little or no provision for insuring school property, five had a special fund and 18 insured with commercial companies. Of 82 cities ranking in population 30,000 to 100,000 only eight made little or no provision, seven had a special fund and sixty- two or 75% insured with private companies.

Thus we see that the practice of carrying no insurance 1* on school property is usually limited to the large cities, where school buildings are numerous, yet scattered. These cities proceed on the theory that the probability of loss in any one year will be so low that such losses as do occur may be met by special appropriations. Several cities have tried this plan and report favorably.

1- Melchior "Insuring Public School Property."

Rochester, New York, reports that it has saved much money during the last thirty years by assuming its own risks. Grand Rapids in ten years suffered no losses, and in this time enough money was saved in premiums to rebuild one or two of the present school buildings. [1]

Concerning the policy followed in Chicago, Mr. Frederick Rex writes:[2]

> "Not once in the last twenty-five years has there been a total loss by fire in a public school building. Even if we should figure on one total loss a year, the amount paid in in insurance premiums would far exceed one such loss. In the case of the Chicago and Cook County School for Boys and the Parental School for Truants, where life and limb is involved in a way, to a greater extent, fire insurance is carried."

San Francisco, New York City, Albany, Washington D. C. and Detroit are other cities that, in general, make no provisions for insuring school property. Some cities insure only a part of their school property, that part being, of course, their largest and most hazardous risks.

---

1 - Municipal Insurance, by Nolting, of University Extension Division, Lawrence, Kansas. May 1927.

2 - Frederick Rex, Municipal Reference Library, Chicago, Letter, Dec. 30, 1926.

Fire Insurance in State Funds

In some states school property, together with other public property, is insured in a state fund. Some of these funds have been very successful, due to able management, while other funds have failed. The failures may be attributed in part to the sacrifice of basic underwriting principles in the interest of reducing rates. Proper distribution of risk, the collection of adequate premiums annually, reinsurance of excess lines and the creation of reserves for unusual losses are the earmarks of an efficiently administered fund. A brief review of three successful funds follows:

> In Wisconsin a bill was passed in 1927 requiring every city and town owning property to the value of $50,000 to insure in the same state fund. The act is compulsory as far as state property is concerned, but the board of control of any public property may insure any property by first informing the state commissioner of the desire to insure in the fund and giving all particulars as to amount of insurance, kind of insurance desired, term, etc, it wishes to carry, Considerable credit is given in the rate when insurance is taken to 70%, 80% or 90% of the value of the property, although it is optional with each local unit as to the amount of insurance it wishes to carry.
>
> The insurance commissioner determines the insurable value of each item of property and fixes the rate, which is usually about 60% of the rate charged by private companies. In case the state insurance fund

---

* Insurance Laws of State of Wisconsin, Page 260
Personal letter J. E. Kennedy, Comm. April 2, 1932

is unable to meet demands upon it the secretary of state will draw his warrant payable from the general fund, which will later be reimbursed from the state insurance fund. The statements from 1931 show assets in excess of $2,800,000.

North Dakota

In 1919 and 1925 North Dakota passed laws providing for the insurance of state, city, and county and other public property in a State Fire and Tornado Fund. Unlike the Wisconsin law, this law makes it compulsory for the city to insure its property in the state fund. School property is included with the rest.

Each city auditor reports to the state commissioner of insurance the "sound, depreciated, or insurable value of each building or risk and contents therein, and such other information as may be required." The commissioner certifies to the city auditor the amount of insurance and the premium.

The commissioner of insurance divides all property reported to him into three classifications and is authorized to place reinsurance with some fire and tornado insurance company in accordance with the limitation defined under each classification. In case the money in the fund is insufficient to cover the losses, a provision similar to that of Wisconsin's operates.

The actual operating cost of the North Dakota State Fund is three percent of the gross income, instead of ten percent as allowed by law. During seven years of operation, $290,559 was paid out for reinsurance, while only $50,474 was received for losses under reinsurance contracts. In 1926 the fund had $29,350,045 fire insurance and 24,240,136 tornado insurance in force. The premium income on both for seven years was $1,426,860 and the losses incurred totaled $431,491 or an average loss ratio of 28% *

South Carolina

In South Carolina, the Sinking Fund Commission, acting for the State of South Carolina, insures all

---

* Report of Fire and Tornado Fund of N.D. 1929
Letter F.E. Tunell, Manager April 8, 1932

of the public buildings of the state, counties, and public schools against loss or damage which may be caused by fire, lightning or windstorms.

The fund acts exactly as an insurance company, issuing a standard from policy and collecting an annual premium thereon. Since 1900, when the insurance project was inaugurated, all losses have been paid and there is now a surplus in the insurance and reinsurance funds which amounts to more than one and a quarter millions of dollars.

Under the law, when the assets of the Insurance Fund reached the sum of $1,000,000 all property that had been continually insured with the fund for five years or longer became entitled to free insurance protection. The million mark was reached more than five years ago, and at present $29,000,000 insurance is being carried free, of the total $41,000,000 in effect. Should the insurance fund be reduced below $1,000,000 through excessive loss, the law authorizes in that event to levy a premium charge against the free or open policies sufficient to restore the fund to the $1,000,000 level. 1* 2*

Richmond, Virginia, reports on the plan:

"We have made a study of school building insurance in Virginia covering a period of ten years from January 1, 1921 to January 1, 1931. Our findings indicate that the state of Virginia would save approximately $100,000 a year if it maintained its own public school building fire insurance. The average annual insurance premiums based on 1930 evaluations over a period of ten years is approximately $197,000. The average annual reimbursement is approximately $88,000." 3*

1- "Report of the Sinking Fund Commissioners to the General Assembly of S. C. 1931.
2- Personal Letter from Sec. J. J. Miller April 1932
3- Personal Letter from Raymond V. Long April 1932

Fire Insurance with Private Companies

The most common practice of insuring school buildings in United States is insurance with private companies. Districts with few risks would be unwise to follow any other policy. Of the 125 cities replying to the inquiries sent out in 1927 by an organization making a survey, 89% of those insuring school property insured part of all of their property with private companies.[1]

Private insurance organizations are broadly classified into four groups: Stock Companies, Mutual Companies, Reciprocal Underwriters or Interinsurers, and Lloyds. While in the field of life insurance the mutual organizations are doing the largest business in the United States, the stock companies are carrying the largest amount of fire insurance business.

The Lloyds organizations are London concerns that accept risks of every class, even to contracts which are practically gambles, such as insurance of losses thru state of weather, the fall of kings and a state of war. Their business, like that of the reciprocal organizations in the realm of fire insurance is not important in our country.

A stock company is organized for profit. It is operated efficiently on good business principles, affords the insurer and the insured a definite contract of insurance, and represents a fairly high type security, since the capital and surplus of

the company guarantee protection. However, Bests Insurance Guide, 1931 which lists the names of stock companies and mutual companies writing fire insurance in United States that have discontinued business or merged with other companies in the last 20 years tends to show that the percentage of failures in stock companies has been larger than the failures in mutuals, in the realm of fire insurance.[1] The moral hazard of the stock company is usually greater than that of the mutual company, since mutual ownership encourages mutual fire protective endeavors.

The mutual is organized for the protection of the insured, theoretically. Any profits or savings made go to the policy holders and not to the stockholders. Mutual advocates emphasize that a mutual is interested in preventing losses, which some do by rigid inspection service and a careful selection of risks. There is little truth to the argument that mutuals are operated by the people who own them, or the policy holders, but often tax exemption is secured under certain conditions.

A slight deviation from the general policy offered by the stock company is to be found in the blanket or master policy. Under this arrangement the entire property of a district is covered by a single policy based upon each individual risk. The amount of insurance carried on each risk is definitely specified, but the rate is usually the same for all buildings.

1- Bests Insurance Guide 1931

A blanket policy may be carried by a single company or it may be so divided as to be written by several companies. In case of fire loss the amount is adjusted by the companies to the full insurance carried on a given building, if the risk is entirely destroyed, but this is paid on a pro-rated basis .

About one-third of the school districts in Utah carry insurance of school buildings in a blanket policy. Such a policy offers low rates and at the same time it simplifies some insurance problems. It is a supposition that more districts would have blanket policies if board members considered only economy in distributing their fire insurance business.

Municipal Insurance of School Buildings.

In principle, insurance is the distribution of risk. With the increase in the number of distinct risks the cost of carrying the risk relatively diminishes. If this principle is true in the experience of insurance companies or large corporations it should also hold true with cities having hundreds of school buildings. Some cities have created municipal school funds in light of this principle. Perhaps the most successful example in the realm of municipal insurance for school buildings only is the one of Cincinnati. 1

> In 1913 it was voted to set aside $25,000 annually to be placed in a permanent insurance fund for school insurance. This was approximately the same amount as the schools were paying insurance companies annually. Special pains were taken to reduce all fire hazards and fire-fighting apparatus was adequately provided.
>
> Since that time the fire loss in Cincinnati has been very small indeed. In 1926 the fund had reached $350,000 which was at the time invested in school bonds paying $20,000 interest. This annual interest was almost as large as the annual premium had been, so since 1925 no provision has been made in the budget for fire insurance. This endowment, if properly handled, will insure the buildings of Cincinnati indefinitely, provided no exceptional losses occur. To date the fund is a little over $400,000. It is the intention of the Board to bring the fund to $500,000.

New Jersey

Newark, New Jersey, had a special insurance fund amounting to $339,658 in 1924. This fund covered schools as well as

1- Reeder Educational Res. Bul. Ohio Univ. April 1925
- Letter Supt. Roberts April 14, 1932

other public buildings. Some of the poorer risks were reinsured in regular companies. The average annual profits of the fund for five years were about $20,000 1

Kansas City

In 1909 Kansas City Board of Education established a fund by appropriating each year an amount equal to the cost of carrying insurance with regular companies, amounting to about $30,000. In 1926 the fund had reached $203,950. Insurance on several old buildings of poor construction was carried in private companies. The losses for 18 years were only $5,000. 2

Cleveland, Ohio

Cleveland, Ohio also has an insurance fund into which the Board of Education pays annually $25,000. No losses have been sustained in five years. 2

Spokane, Washington

Spokane, Washington carried a special insurance fund but discontinued the plan when a school building burned and the cost of replacing it was considerably more than the amount which had accumulated in the fund. The superintendent of schools, however, stated that if the amount appropriated to the fund every year had been as much as the actual cost of insuring, the fund would have taken care of the loss 2

Omaha, Nebraska

For ever 25 years all school buildings of Omaha, Neb. except a few bad risks, were covered by an insurance fund. During the time there were no fires and the fund was never called upon for a loss. In 1926 this fund was transferred into the general fund and the $11,000,000 insurance was divided among the various companies according to the amount of taxes each paid in the school district. The reason for the change was not made clear. It was assumed that the local insurance companies had used influence in securing a different method of insurance. 2

1- Toledo City Journal, Vlll, 572 (Nov. 24, 1923)
2- "Municipal Insurance" Nolting U. of Kansas

Although a number of cities have created insurance funds for school property, the practice is not very widespread. There are distinct limitations to the plan; a few of these limitations are listed: 1

1. Few Cities have enough risks to attempt the plan.

2. Municipal administrations often change hands; when the fund seems to be fairly large the authorities might aim to meet public approval by not appropriating money for the fund.

3. The fact that the majority of large companies, which have within themselves the best opportunity of proving the worth of self-insurance, carry their risks in regular insurance companies is a strong argument against the plan.

4. A conflagration might cripple a self insurance system, while a stock company would feel little significant loss. Stock companies usually have their risks well scattered.

5. Successful insurance executives must be good bankers. It would require shrewd business sense to operate a municipal school fund.

6. A fund for self insurance should at least equal the value of the most expensive building, and such a fund could not be created without serious drain in a city's resources.

1- Condensed from "The Phoenix" Vol. III, Jan, 1927
Phoenix Insurance Company, Hartford, Conn.

What Conditions in Utah Schools Favor the Adoption of Any Given System of Fire Insurance?

The following statements will serve as premises upon which to base an insurance system:

1. Utah as a state is a typical village state. Although the population is sparse, school buildings are usually within walking distance for a majority of the students. The school buildings, however, are usually so isolated that they suffer little exposure hazard, and there is little danger of conflagrations.

2. While 69 % of the school buildings in the United States are one room schools, only 13 % of Utah schools are one room. This factor indicates that Utah schools tend to represent risks of more nearly uniform size than the average throughout the country.

3. The average district insurance premium in Utah is approximately $1000. Salt Lake City district alone pays $12,000. or more. With so few risks it would be unwise for any district alone, within the state, to assume its own insurance risk. One student [1] of the problem of municipal

---

1 - Ford H. MacGregor, Chief, Bureau of Municipal Information, Wisconsin. Letter Nov. 1926. "The Municipality" XXII

insurance believes that in order to have a safe distribution of fire losses, a district must have approximately 200 risks. Of the 44 buildings listed by Salt Lake City in the city report of 1931 only 14 of these buildings are valued less than $50,000 and 31 are estimated to be worth more than $100,000. These risks are therefore too large to trust to municipal school insurance.

4. Utah's schools are not adequately provided with fire fighting devices, and only the newer, larger buildings are fire-resistant to a high degree. The fire records in Utah show that our losses of 56.2% to premiums are much greater over a period of 12 years than the losses reported in cities assuming their own insurance burden. Any program of self-insurance in Utah would mean that definite steps in the prevention of fires must be undertaken.

5. Insurance rates on Utah school buildings are not excessive. 30% of the school property in the state is insured for a rate of .54, term three years; 51% of the school property is insured for 64% or less and 92% of the school buildings are insured for.75 or less per $100. property value--term three years.

Melchior found the average rate of New York state to be $1.25, the median 1.30, the lowest .38 and the

highest 3.75 per $100 valuation, term three years, in 92 % of the cases.

Insurance executives within the state report that their companies write insurance upon school buildings merely as an accommodation to citizens, since several factors operate to make insurance of school buildings an undesirable business. Rates on general property in Utah are considerably higher than the school districts are paying.

6. The American people are reluctant to give more power to a central government. While in Europe state insurance is operated successfully in many places, state insurance in our country might soon fall into the realm of politics and be operated by people not entirely qualified. A state operated insurance system managed by political bosses would be less likely to be sound than a company definitely organized on business principles supported by constant research.

7. It might be a difficult matter to secure the adoption of a state insurance system, granting that such a system is desirable, which of course, it might not be. Too many influential citizens are interested in placing the school insurance with the "proper" company, from their points of view.

There are some school board members fighting blanket insurance on Utah school property because they fear such arrangement would not give "their " company its proper share of business.

Since school districts of Utah are too small to maintain individual insurance systems, and since they are also too small to assume a policy of no insurance, with an idea of bonding in case of fire loss, the only plan of insurance that would seem to be an improvement on our present system would be some cooperative plan, wherein all school buildings in the state would be insured in a special system. Such a plan, representing a state fund or a mutual insurance system, would have the following advantages and limitations:

1- Six hundred fifty risks so widely scattered geographically without concentration of value would afford opportunity to profit upon this wide distribution and at the same time to enjoy such advantages as come from classified risks.

2. Adequate insurance at a just rate for all districts could probably be attained by cooperation.

3. If such an organization were established uniform records of insurance throughout the state would replace what we have now, or have not.

4. Steps toward fire prevention, the best type of fire insurance, might be more efficiently and economically directed

5- It is reasonable to suppose that considerable financial saving might result at the same time "adequacy" is attained, if the proper administrative organization could be secured. Granting that 25% of the premium of a stock company is expended for agents' expense, 4% for taxes, 55% for losses and the rest for overhead of dividends, a state system would have distinct opportunities for savings. A state system should be able to eliminate the tax item, reduce fire loss thru cooperation in measures of fire prevention, eliminate the agents' expenses, and reduce general overhead, E. F. Tunnel, 1* Manager of the State Fire and Tornado Fund of North Dakota, in commenting upon the system in force in North Dakota, says:

> " Through careful and business like operation the State Fire and Tornado Insurance Fund has developed to be a remarkable success. The great difference in cost between our state insurance and the cost of insurance with other companies is the difference in operating costs. The average operating costs of private insurance companies is about 45%, and the State Fire and Tornado Fund of North Dakota has operated on less than 5%
>
> It seems to me there is no reason for other states not operating on the same plan or a similar plan, and thus saving a large amount of the premium which is continually being paid to private companies!"

The disadvantages seen in a state school fund are:

1. Until the fund had become large enough to cover the cost

1- F. E. Tunell, Manager of Fund. Personal letter received April 12, 1932.

of rebuilding one of the most valuable risks, which in this state would mean a sum of about $200,000 1* even a single fire might prove disastrous. The Millard fire in 1929 at a loss of $71,000 represents 27% of the total fire insurance adjustments received by Utah schools in 12 years. A fire this large or larger, while the fund was small, would present a grave problem. This danger could partly be overcome by insuring the large and dangerous risks with private companies, until the fund reached a proper size.

2. Careful provision would need to be made to guard against political corruption, for the underwriting experience of ther companies should never be lost sight of or financial soundness would be forefeited.

3. Enemies of state control would work to defeat the adoption of the plan, and if adopted they would try to undermine its efficiency.

4. Unless strict enforcement of methods of fire prevention were adhered to cases might rise where-in the causes of the fires were definite instances of undue moral hazard, due to the negligence of the districts concerned.

1- Salt Lake has one building with sound value of $1,056,000 and there are many in the state larger than sound value of $200,000. However, such buildings being better protected and better constructed would probably never be entirely destroyed by fire.

6. Our present legislation would not permit the schools to establish a state school fire insurance fund. "Steps" toward this ideal would include a decision to be rendered by the Attorney General on the legality of the issue, careful study of every phase of the problem to draw up laws and ordinances for proper regulation under conditions in Utah, and approval by the state legislature.

1- Verbal opinion given by Moses Logan Rich, Asst. Attorney General, to writer.

C O N C L U S I O N S

Data in this study point to the following conclusions:

"What practices have been followed in insuring school buildings in Utah?

1. All school districts have carried some fire insurance on school buildings.

2. Commercial Insurance companies have written the insurance for Utah schools.

3. The ratio of insurance to value has been fairly high

4. The insurance ratio to value between buildings of various sizes has remained fairly uniform.

5. Details in insurance procedure do not show uniformity.

6. Adequate insurance records have not been kept.

"Is our present system of insuring school buildings and economical system?

The systems that seem to offer most opportunities for economy in insuring Utah schools are listed in their order of suitability for conditions in Utah

1. A State Insurance Fund

2. Private Insurance

3. Municipal Insurance

4. No Insurance

APPENDIX 1

RESPONSE OF STATE SUPERINTENDENTS OF U. S. SCHOOLS TO INQUIRY

"Has your state, or any district with in your state, had any experience with a school building insurance fund?"

State	Response
Alabama	Yes
Arizona	No
Arkansas	No
California	No insurance carried on school buildings
Colorado	No
Connecticut	No
Delaware	No
Dis. of Columbia	No insurance carried on school buildings
Georgia	No but it seems reasonable that the state could carry its own school insurance
Idaho	"There are several districts in the state that carry their own insurance and do so economically."
Illinois	No
Indiana	No
Iowa	No
Kansas	No experience, but the loss ratio of schools and public buildings in Kansas 1926- 1930 inc. was 34.9%
Kentucky	No
Louisiana	No
Maine	No
Maryland	No
Massachusetts	No insurance carried on school buildings.
Michigan	"Our state fund does not insure schools."
Minnesota	No
Mississippi	No
Missouri	"We have made quite a study of school bldg. ins. in this state, but have not decided whether it would pay to go into state bldg. ins. In 1930 our losses to premiums on schools were 36.9%
Nebraska	Only State buildings have self insurance.
Nevada	No
New Hampshire	No
New Jersey	No

(Replies - Continued)

State	Reply
New Jersey	"No experience, but we recommend the plan highly, and hope to do something in this direction next legislative session."
New York	"New York City carries no insurance and has no insurance fund."
North Carolina	No experience
North Dakota	"Our state insurance system, which includes schools, is very successful."
Ohio	Cincinnati has a very successful insurance system operated as a city school fund.
Oklahoma	No experience
Oregon	"While your idea seem to be very valuable--I know no organization or schools with such a plan."
Pennsylvaina	No experience
Rhode Island	No experience with a fund. Some cities do not insure school buildings.
South Carolina	A very successful state fund also insures schools. "What we have done in this state--can, I feel sure, be equaled or improved upon by any other state in union."
South Dakota	"No experience with school insurance. We have had experience in hail ins. and that is enough."
Tennessee	"We have had some experience." 1% of our tax rate is set aside in Nashville for a school sinking fund.
Texas	No information
Vermont	No information
Virginia	"Our findings in ten years indicate that the State of Virginia would save approximately $100,000 per year with a school insurance fund."
Washington	No experience
West Virginia	No experience
Wisconsin	A state fund insures at 60% of stock company rate.
Wyoming	No experience

APPENDIX II

(Copies of letters received from Supt. C. N. Jensen regarding the questionnaires to be sent to superintendents of Utah.)

August 8, 1931

Mr. Elmer Jeppsen
Mantua, Utah.

Dear Mr. Jeppsen:

I have looked over carefully the form of questionnaire sent to our office, the same to be used in a proposed study of school building insurance in our State.

I have also asked Supervisor Bjarnason to look over the same carefully and as far as we can see at the present we have no suggestions to offer.

When you are in a position to send the questionnaire to the superintendents with your letter of instruction, kindly inform me and I shall be pleased to urge the superintendents to assist you in this study.

Very truly yours,

C. N. Jensen
State Superintendent of
Public Instruction.

APPENDIX II

September 29, 1931

Mr. Elmer Jeppsen
Mantua, Utah.

Dear Mr. Jeppsen:

We have now received replies from sixteen of the forty districts to the letter we sent out five or six weeks ago asking for data on the insurance of school buildings. These replies are sent to you today under separate cover. We shall send in today's mail another request to the twenty-four superintendents who have not yet answered our first request.

Yours very truly,

C. N. Jensen

State Superintendent of
Public Instruction.

APPENDIX II

October. 29, 1931

Mr. Elmer Jeppsen
Mantua, Utah.

Dear Mr. Jeppsen:

You will find inclosed a list of public school superintendents with the names of the districts checked off which have already responded to your request for data on the insurance of school buildings, and whose reports I understand are now in your hands. Today I am sending to the eleven districts which have not yet reported, the necessary forms for their reports. I hope and believe that practically all of these districts will respond with in a comparatively short time.

Yours very truly,

A. C. Matheson
Asst. Supt.

APPENDIX II

(Letter regarding insurance of church buildings in Utah)

January 8, 1932

Dear Brother:

In your letter of January 7 you ask for the total assessed valuation of church buildings and property insured, total insurance premiums paid each year for the last twenty years, and other information in connection with the insurance on church buildings.

We are not able to furnish you this information. Evidently you have not been informed that the church for the last sixteen years has carried its own fire insurance risks, sothat no policies are carred with insurance companies, and, consequently, there have been no payments for premiums on such policies. When ever a loss results from fire in a church building, the cost of repairing the damage is met from a special fund provided for this purpose.

THE PRESIDING BISHOPRIC

By David A. Smith.

APPENDIX III

Sample of personal letter, in
(Form of questionnaire, sent to all state superintendents)

Brigham, Utah
March 23, 1932

_____

_____

Dear Superintendent:

I am making a study of school building insurance in Utah. I should like to know if it would be more economical and perhaps just as safe for the schools of Utah to manage their own insurance system, instead of insuring with commercial companies. Perhaps we might create an insurance fund to take care of all fires.

Will you please indicate on this letter:

1. Has your state, or any district with in your state, had any experience in this line? _____

2. Do you know of any place with in your state I might find data on this subject? _____

I shall indeed appreciate a reply from you.

Respectfully,

Elmer Jeppsen

B I B L I O G R A P H Y

Engelhardt, N. L. and Fred, "Public School Business Administration." Teachers College, Columbia University, New York 1927

Hardy, Charles O., "Risk and Risk Bearing." University of Chicago Press. Chicago, Ill. 1923

Huebner, Soloman, S., "Property Insurance." D. Appleton and Company, New York. 1922

Melchior, William T., "Insuring Public School Property." Contributions to Ed. No. 168. Teachers College, Columbia University, N. Y. 1925

Mowbray, Albert H., "Insurance, Its Theory and Practice in the United States." McGraw-Hill Book Co., Inc. New York City, N. Y. 1930

Reeder, Ward G., "Business Administration of the School System." Ginn and Company, Boston, Mass. 1929

Strayer, George D., "School Building Problems." 1927

Taussig, F. W., "Principles of Economics." Vols. I and II The Mac-Millan Company, New York, 1915

Riegel, Robert and Loman, H. J., "Insurance Principles and Practices." Prentice - Hall Inc., New York. 1921

Willet, Allan H., "The Economic Theory of Risk and Insurance." Columbia University Press, New York. 1901

Best, Alfred M. "Best's Insurance Guide, with Key Ratings." Best Building 73-79 Fulton Street, New York. 1931

Board of Education, Salt Lake City. "Annual Reports of Public Schools of Salt Lake City," 1919-31

Kennedy, J. E. "Annual Report of State Insurance Fund of Wisconsin." 1930. Madison, Wisconsin

McQuarrie, J. G. "Biennial Reports of Commissioner of Insurance for State of Utah." 1924-1927 Salt Lake City, Utah

Miller M. J. "Report of the Sinking Fund Commission to the General Assembly of South Carolina." 1931 Columbia, S. C.

Nolting, OrionF. "Municipal Insurance." Bulletin of University Extension Division, Lawrence, Kansas 1927

Reeder, Ward G. "Community Insurance on School Buildings." Educational Research Bulletin, Ohio University, 1925

Tunnell, F. E. "Complete Report of the Fire and Tornado Fund of the State of North Dakota, 1929." Bismark, N. D.

Skaaland, S. G. "Public School Property Insurance." American School Board Journal 75: October 1927

State of Utah "Insurance Laws of State of Utah." 1931

State of Wisconsin "Insurance Laws of State of Wisconsin." 1929

"School Fires." Bulletin of National Fire Protection Association Boston, Mass. 1931

"The Story of the National Fire Protection Association and List of Its Publications." N.F.P.A. Boston, Mass.

"Report of Actuarial Bureau Committee National Board, Fire Underwriters of Standard Fire Classification of Buildings in U. S. New York. 1931 (Confidential)

"Rewriting School Property Insurance at Manhattan, Kansas." American School Board Journal 76: June, 1928

"Underwriting and Investment Profits and Losses for 100 Leading Fire Insurance Companies in 1930." Reprinted from The Spectator, New York. 1931 Edition.